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SEPTEMBER 1958

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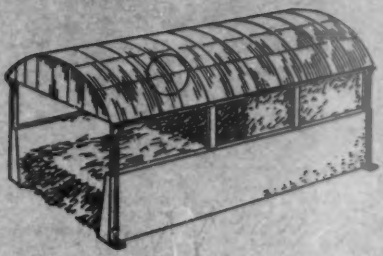

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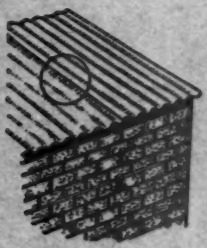

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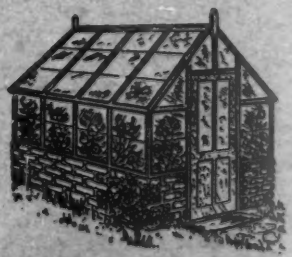

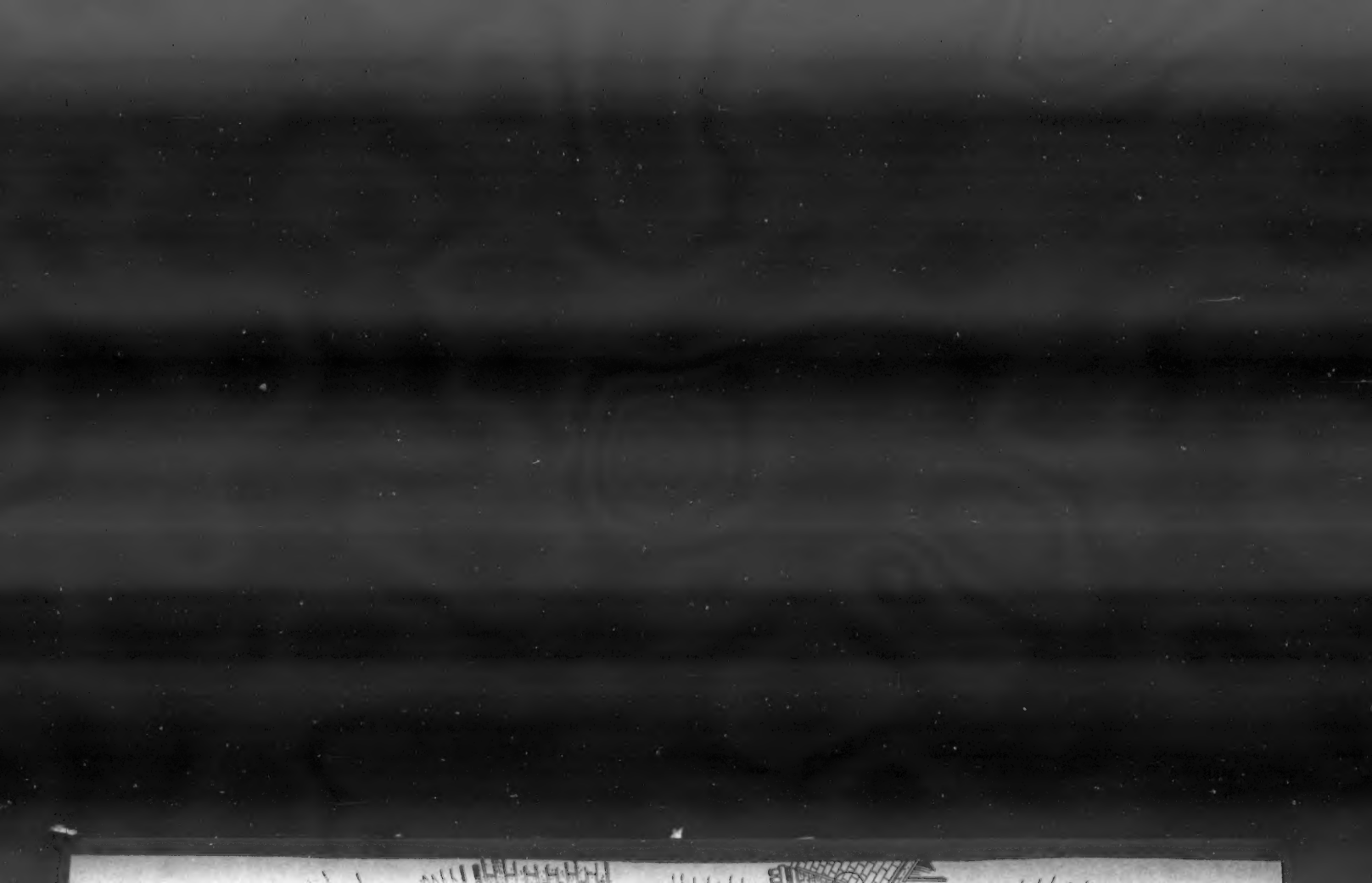

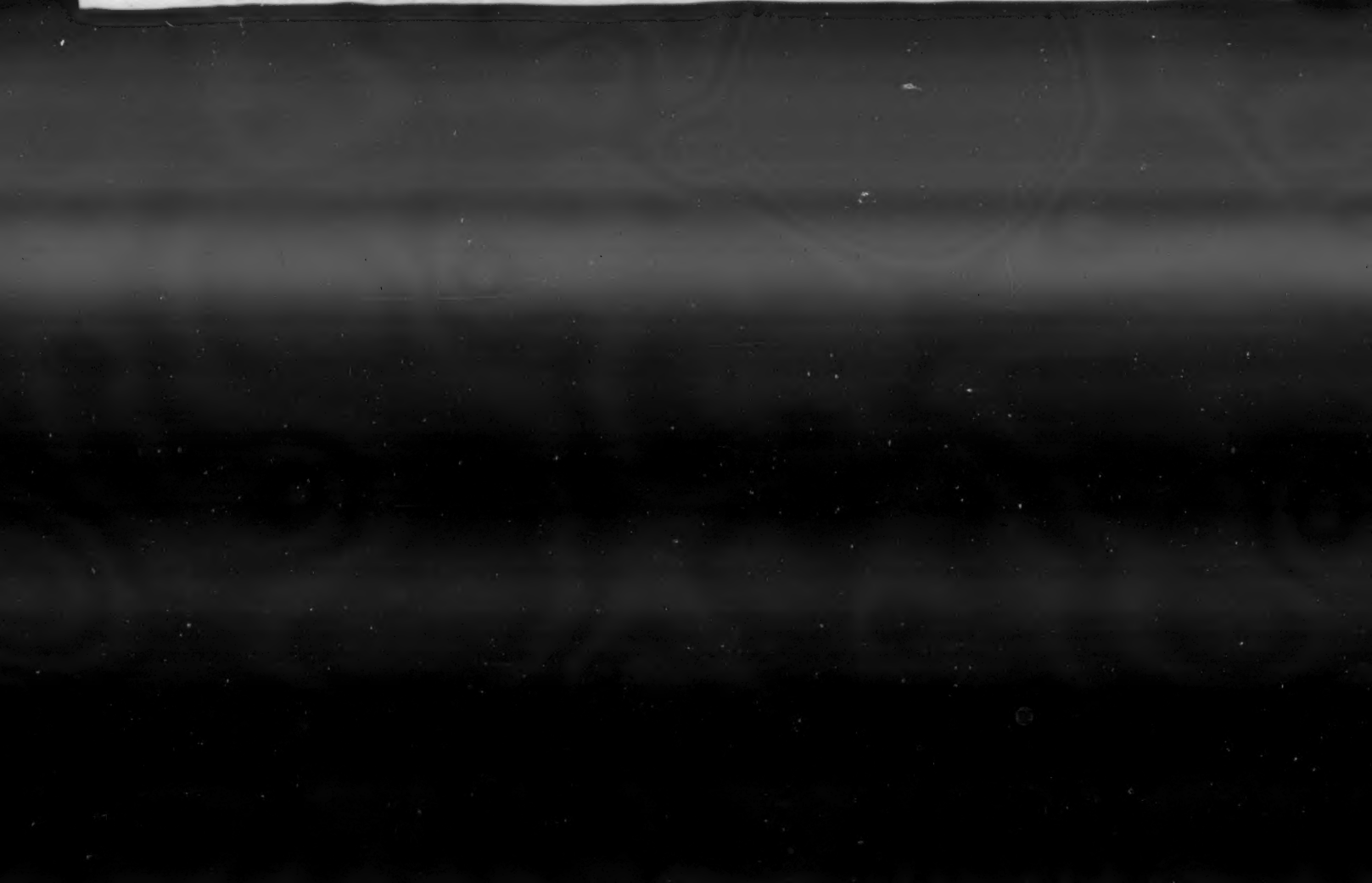

JOURNAL OF THE ROYAL HORTICULTURAL SOCIETY

VOL. LXXXIII PART NINE

September 1958

THE SECRETARY'S PAGE

ANNOUNCEMENTS—SEPTEMBER AND OCTOBER

Shows

TUESDAY, September 2 12 NOON to 6 P.M. WEDNESDAY, September 3 10 A.M. to 5 P.M.	Fortnightly Flower Show and Alpine Garden Society's Competition, in the Old Hall.
FRIDAY, September 5 1 P.M. to 7.30 P.M. SATURDAY, September 6 10 A.M. to 5 P.M.	National Dahlia Society's Show, in both Halls.
TUESDAY, September 9 11 A.M. to 7 P.M. WEDNESDAY, September 10 10 A.M. to 5 P.M.	National Rose Society's Show, in both Halls.
TUESDAY, September 16 12 NOON to 6 P.M. WEDNESDAY, September 17 10 A.M. to 5 P.M.	Fortnightly Flower Show, Cactus and Succulent Society's Competition and Hardy Plant Society's Competition, in the New Hall.
FRIDAY, September 19 1 P.M. to 7.30 P.M. SATURDAY, September 20 10 A.M. to 6 P.M.	National Chrysanthemum Society's Show, in both Halls.
TUESDAY, September 30 12 NOON to 6 P.M. WEDNESDAY, October 1 10 A.M. to 6 P.M. THURSDAY, October 2 10 A.M. to 5 P.M.	Great Autumn Show, in both Halls.

Shows—*continued*

TUESDAY, October 7 12.30 P.M. to 6 P.M. WEDNESDAY, October 8 10 A.M. to 5 P.M.	Fruit and Vegetable Show, in the Old Hall.
TUESDAY, October 14 12 NOON to 6 P.M. WEDNESDAY, October 15 10 A.M. to 5 P.M.	Fortnightly Flower Show, in the New Hall.
TUESDAY, October 28 12 NOON to 6 P.M. WEDNESDAY, October 29 10 A.M. to 5 P.M.	Fortnightly Flower Show and Tree and Shrub Competition, in the New Hall.
FRIDAY, October 31 1 P.M. to 7.30 P.M. SATURDAY, November 1 10 A.M. to 6 P.M.	National Chrysanthemum Society's Show, in the New Hall.

Lectures

TUESDAY, September 2, at 3 P.M. "House Plants", by MR. T. ROCHFORD.

TUESDAY, September 16, at 3 P.M. "Outdoor Plants Worth Growing for Their Foliage", by MR. G. S. THOMAS.

TUESDAY, September 30, at 3 P.M. "Some Recent Improvements in Crop Cultivation and Management", by MR. G. D. LOCKIE, N.D.H.

TUESDAY, October 7, at 3 P.M. "Strawberries", by MISS B. HAVERGAL, N.D.H.

TUESDAY, October 14, at 3 P.M. Masters Memorial Lecture. "The Living Tree", Part I, by DR. F. R. TUBBS, M.SC.

TUESDAY, October 28, at 3 P.M. Masters Memorial Lecture. "The Living Tree", Part II, by DR. F. R. TUBBS, M.SC.

Demonstration at Wisley.—On September 24 there will be a demonstration on Digging, Manuring and Composting at Wisley, commencing at 2 P.M. The demonstration will be repeated at the same time on September 25.

Lily Group Meeting.—The Lily Group will hold a meeting in the Lecture Room in the New Hall on Tuesday, October 14, at 4.30 P.M., when there will be an exhibition of coloured lantern slides.

The Society's Examinations.—The Preliminary Examination for the National Diploma in Horticulture will be held on Saturday, November 22, 1958. The closing date for entry is October 1, 1958.

Medal for Long Service in Horticulture.—At the last Annual General Meeting the President said that the Council was considering the

question whether some recognition should not be made to some of those men and women who have spent the whole of their lives in one garden, nursery or other horticultural establishment. It has now been decided to institute a medal for award to any man or woman of British nationality, resident in the United Kingdom, who has completed not less than forty years' satisfactory and continuous employment as a gardener or in some other horticultural capacity in a private, commercial, public or botanical garden, nursery, market garden, fruit plantation or seed trial-ground with *one* employer or family or in *one* place. The recipient of a medal will also receive a buttonhole badge and a certificate recording the award. On completion of fifty years' satisfactory service an employee will be eligible for a bar. Horticultural employment broken only by (*a*) war or national service and/or (*b*) absence for a limited period (e.g. for the period of a student-gardener's course at Kew) will be regarded as continuous horticultural employment. The award may be made to a retired employee but not posthumously.

Anyone desiring to make application for this Long-Service Medal should do so on a form which may be obtained from the Secretary.

NOTES FROM WISLEY

N. K. Gould

IF any reminder were needed of the rapid passing of summer, none would, perhaps, be more effective than the appearance of flowers on what one is accustomed to think of as autumn-flowering bulbous plants. By mid-August the first blooms of *Cyclamen neapolitanum* can normally be expected in the wild garden and on Battleston Hill, and this year one or two were observed in July while *Rhododendron auriculatum* and *R. arborescens* were still at their best. For a period of ten weeks or longer this Southern European species will send up relays of its dainty rose or white flowers, and by the end of that time there will be a carpet of angular, silver-blotched leaves serving as an attractive ground-cover until May. This is the most satisfactory for growing in the open where it can be given a partially shaded site in moderately moist soil, and a summer mulch of good sifted leaf-mould. Unless seedlings can be raised it is best to plant young tubers which have been pot-grown. Very large old roots can be obtained, and this year there have been plenty, even in the chain stores, measuring up to 10 inches in circumference and priced at sixpence each. These do not always turn out to be as cheap as they appear, for they may need two or three years to become established.

The belladonna lilies, planted just inside the main gate to the gardens, near the frame-yard wall, in the A.G.M. collection, and in the half-hardy house, cover a good deal of variation in form, colour and height,

but not all the forms are named. They are all admirable for warm and sunny borders where the abundant foliage can mature fully during the early summer without being overgrown by other plants. A number of good varieties and hybrids have been raised by Dutch breeders and also in America. MR. L. S. HANNIBAL, of Fair Oaks, California, gave a most interesting account of this work, with remarkable illustrations, in the JOURNAL, Vol. 80, pp. 515–21. In a current Dutch bulb catalogue six named hybrids are offered.

Amaryllis belladonna has been used in crosses with species of *Brunsvigia* to produce some outstanding hybrids. The late MR. A. WORSLEY, who died in 1943, was a skilled grower of these and other rare and difficult bulbous plants. On more than one occasion he exhibited at Westminister the richly-coloured × *Brunsdonna parkeri*, with huge umbels of purplish-rose flowers, and the even more striking white form of the same hybrid. His article in the JOURNAL, Vol. 51, pp. 64–7, outlines the history of this group of plants.

A plant which is fairly well known in gardens is the hybrid between *Amaryllis belladonna* and *Crinum moorei*, properly called × *Crinodonna corsii*, a name given on the occasion of its first raising in Italy. The name × *Amarcrinum howardii* was bestowed upon a hybrid from the same cross made some years later in California. The plant grows at Wisley in the frame between the greenhouse and in the half-hardy house, where it forms a bold clump of long, dark green, persistent leaves from which, in autumn, arises a succession of strong scapes bearing umbels of funnel-shaped, rose-pink, fragrant blooms.

The colchicums form an extremely valuable group of autumn-flowering plants, whose chief disadvantage lies in the heavy clusters of spring foliage persisting until midsummer, when it dies off in an untidy fashion. They are not bulbous, but develop each year a fresh corm shaped rather like a tulip but with a peculiar elongated "foot" low down on one side, from which the new growth comes. In the wild garden, Seven Acres and the azalea garden many species and varieties can be seen, and among the most showy are the purple and white forms of *Colchicum speciosum*, with fine upstanding goblet-shaped blooms, and *C. cilicicum*, which has rose-pink, more star-shaped flowers in dense clusters.

In the higher part of the alpine meadow the turf will be dappled this month with the first crocus flowers. *Crocus kotschyanus*, popularly called *zonatus*, is one of the first to come, and on sunny days its rosy-lilac cups will open widely, showing the contrasting orange blotch in the throat. An extra early, white-throated form of this, called *leucopharynx*, grows in the rhododendron species beds on Battleston Hill. The long violet buds of *C. nudiflorus* shoot up very rapidly in many parts of the wild garden and the rock garden at this season, but the fine, grass-like leaves do not appear until the spring. This species will spread about by means of long white underground stems which form corms at their tips. None is more lovely than *C. speciosus*, whose broad,

finely-pencilled petals, spreading widely, create patches of vivid blue. This is easy to obtain, and is one of the lowest priced in the lists.

Zephyranthes candida is an accommodating little plant with crocus-like white flowers and evergreen, grassy foliage. It grows in a bed at the west side of the laboratory, where it has been established for many years. Unfortunately, no other species of this varied and charming genus can be grown in the open at Wisley, but several are to be seen in the half-hardy and alpine houses. They are splendid pot-plants for a frost-proof house, producing attractive pink, yellow or white flowers in early summer and usually ripening seed. *Leucojum autumnale* is another unobtrusive plant which has become established in many parts of the Gardens. Its white flowers, in clusters of two or three at the tips of slender upright scapes 6 inches tall, come in late summer before the leaves. It is very different in appearance from the much larger and coarser spring-flowering species. It likes a sunny, well-drained place, and could be planted with the bright yellow *Sternbergia lutea*, which has at the time of flowering a tuft of dark-green leaves.

The bulb catalogues which have been arriving during the past few weeks contain many tempting items, and make it possible to try some interesting and unfamiliar plants inexpensively. The notes which follow may be of value to some readers who in the past have only grown such kinds as daffodils, hyacinths and tulips.

In the genus *Allium* one of the most handsome is *A. albo-pilosum*, which is one of the larger species suitable for the mixed border. From a tuft of strap-shaped leaves hairy on the underside it sends up an 18-inch scape carrying a globular head of long-stalked flowers with radiating segments of glistening metallic lilac colours. Two species better suited to the rock garden are *A. ostrowskianum*, a plant about 9 inches tall with heads of bright rose blooms, and *A. karataviense*, in which the leaves are broad and flat, bluish-green and sometimes more or less striped, and the flowers white in dense umbels. *Camassia* is a North American genus of value for its predominantly blue tints. The six-petalled flowers are star-shaped and arranged in long erect racemes, sometimes as many as a hundred together. In *C. cusickii* the inflorescence may be nearly 3 feet tall, and the broad basal leaves are glaucous. The flowers are lavender-blue. Even finer is *C. leichtlinii*, available in bluish-purple or white, with large, broad-petalled flowers. *C. esculenta* of the lists may be *C. fraseri*, a smaller plant with bright-blue flowers. All of these can be grown in grass, and, so planted, are decorative in May and June.

The Snake's-head Fritillary, seen growing in thousands in moist meadows, is one of the most charming plants in the British flora. Names have been given to several selected colour-forms, and these can be grown quite successfully in even a small garden, provided the soil is not too dry. An occasional mulch of fine leaf-mould or granulated peat is most helpful, and self-sown seeds will germinate freely in it. In common with other species of *Fritillaria*, the bulbs are thin-skinned

and will not tolerate being kept out of the soil for long periods. Undue drying of the bulb is probably the cause of many failures with *F. imperialis*, the Crown Imperial, which needs to be transplanted as soon as the flowering stem fades down. If the bulbs are kept out of the ground for a few weeks they shrink from loss of moisture and begin to emit brittle roots which are easily broken. These plants are not well adapted to the mixed border, but require for their full development a site in deep rich soil where they will not suffer from the competition of other robust species.

Of the Ornithogalums, the Star of Bethlehem (*O. umbellatum*) is almost too well known, as its numerous bulbils spread about freely in beds and borders, sending up sheaves of narrow, grass-like leaves, and later, heads of starch-white, starry flowers. *O. nutans*, which has erect stems of green-backed, somewhat translucent blossoms, can likewise be invasive, but it is attractive in spring in outlying parts of the garden, among shrubs or ferns. In the past year or so, *O. thyrsoides*, the Chincherinchee, has been imported largely and widely advertised. It is, of course, not new to cultivation, and in the past the long-lasting cut sprays of flowers brought from abroad have occasioned some interest. Four or five bulbs planted in spring in a 5-inch pot and grown in moderate warmth, send up rich green lanceolate leaves which stand up without support, and stiff scapes bearing a long succession of pure white blooms. Each bulb will produce a second inflorescence to follow the first.

A few smaller bulbs are worth noting. *Scilla tubergeniana* is very early-flowering, the buds opening first at soil level, and the scapes gradually elongating to display silvery-lilac blossoms as large as those of the better forms of *S. sibirica*. It is hardy and good in the rock garden, also excellent in pots. *Puschkinia libanotica* has the habit of *Scilla*, but the pale-blue petals have longitudinal stripes of a deeper shade. The white variety is also most attractive. Two species of tulip quite out of the ordinary are *T. aucheri*, of which each bulb produces a small, flattish rosette of leaves and several short-stalked rosy flowers, with a greenish eye, and *T. tarda*, in which a cluster of green-tinted buds will suddenly expand, on a sunny day, into a bunch of wide starry flowers of lemon-yellow, tipped with white. Finally, there is a modest little flower, variously called *Ipheion uniflorum*, or *Triteleia*, *Milla*, or *Brodiaea*, with milk-white flowers in April upon cushions of soft, pale green, grassy leaves. On the margin of a sunny border it increases rapidly, and is one of those tidy plants which disappear completely soon after blooming. FARRER once wrote of this, that there was nothing lovelier in spring. Actually the variety *violaceum*, which can now be obtained cheaply, and which has flowers of soft bluish-violet, is even more desirable.

IRISH GARDENS AND GARDENERS

R. C. Jenkinson

PART I

ANY account of the magnificent gardens of the British Isles must also be a story of their creators. The last hundred years or so may be considered the Golden Age of Gardening. It was during the first half of this period, up to 1900, that HOOKER, ROBERT FORTUNE, the French missionaries DAVID, SOULIÉ, FARGES, and DELAVAY, MARIES, AUGUSTINE HENRY, and PROFESSOR SARGENT were at work, to be followed by that famous quartet, E. H. WILSON, REGINALD FARRER, GEORGE FORREST and KINGDON WARD, all collecting in the eastern Himalayas, Upper Burma, China and Tibet, Japan and Korea. In the West during the nineteenth century ASA GRAY, DOUGLAS, BURBANK and others had botanized in North America and the Chilean Andes. The names of each one of these men is immortalized in the names of one or more plants which now adorn our gardens. And what a wealth of beautiful plants they sent home!

It would, however, hardly have been possible for this great urge to collect to have been brought to fruition without the sponsorship of botanic gardens, Messrs. Veitch of Coombe Wood, and last, but not least, the garden owners whose enthusiasm and financial aid made many of these expeditions possible—men such as MR. J. C. and MR. P. D. WILLIAMS, SIR GEORGE HOLFORD, MR. LIONEL DE ROTHSCHILD, COLONEL MESSEL, LORD ABERCONWAY, LORD HEADFORT, MR. J. B. STEVENSON and others. It was my privilege and good fortune to know most of the great gardeners of the twentieth century, to whose kindness and encouragement I owe what knowledge I have picked up, abetted by a precocious love of flowers, and the fact that from the age of six, when my father died, I was allowed to do much as I liked, a meagre allowance permitting, in our garden in Northamptonshire—for horses, not plants, were the order of the day!

It was not until 1931 that I paid my first gardening visit to Ireland, to LORD HEADFORT in Co. Meath, where I first met SIR FREDERICK and LADY MOORE and MR. ARMYTAGE MOORE. From that date, during many visits to different parts of the country I have never ceased to be puzzled by the vagaries of climate and the peculiarities of the soil of that lovely island. Roughly, one could compare it to an oval dish, of which the perimeter is mountainous and mild, while the centre is mostly flat and colder. Yet everywhere there is a quality of light, a luminosity, sometimes opaque, sometimes translucently stereoscopic, that is hardly to be found elsewhere in the British Isles. Perhaps this is due to atmospheric humidity, or to some diaphanous veil drawn between the direct rays of the sun and the foliage and flowers upon which they strike, a veil drawn up not only from the sea, but also from the many loughs, streams, and bogs which besprinkle the country? Be that as it may, the Irish gardener should bless his climate as he may curse the wind. However much frost

is registered, it is somehow tempered, so that plants which are normally considered tender can be grown successfully, always provided that there is some protection from that arch-enemy. For I have seen far more damage done by a freezing wind, especially after a light snowfall, than by the severest frost.

The soil of the seaboard counties is almost universally acid or neutral, so that with their advantages in climate, most of the great gardens are to be found in these areas. It is in the central counties such as Kildare, Offaly, Leix, Tipperary and Limerick that the puzzles come. The great horse-breeding and cattle-rearing lands of fine trees and luscious grass of an incredible greenness lie upon limestone, and whenever I have taken an analysis it shows a result of at least pH 7. Here and there unsuspected pockets of neutral or acid soil occur, as at Westonbirt in the Western Cotswolds. Yet plants which are known or supposed to be intolerant of lime, thrive. In Co. Kildare, in Kildangan near The Curragh, *Crinodendron hookeri* and *Olearia semidentata* flourish with no special preparation. Here, too, there is a horse-shoe some 40 yards in diameter enclosed by sloping banks 5 feet high. On the floor is a large bed where at least fifty years ago hybrid rhododendrons were planted in peat-mould. They are in perfect condition. One would have expected the water from the surrounding flat land to have percolated through the bed, turning the foliage yellow and killing the plants. No one has explained this to me. Can it be that the surface water does not disperse laterally, that it rises and falls vertically, and the table is sufficiently low for the water, where it does disperse laterally, to flow under a prepared bed? Perhaps this table of calcareous rock is harder, less porous, and therefore less soluble than in England. I wish I knew the answer, but this is a question for the geologists.

GLASNEVIN BOTANIC GARDEN

Let us start our tour in Dublin at Ireland's Garden Gateway, at Glasnevin, the great Botanic Garden over which DR. WALSH now presides. As Kew is to England, and Edinburgh to Scotland, so is Glasnevin to Ireland. Founded by the Royal Dublin Society in 1794, from small beginnings it grew by 1940 to 53 acres. It is true to say that these gardens owe their greatness to the love and labour of two men. DAVID MOORE was appointed keeper in 1838, to be succeeded by his son SIR FREDERICK MOORE in 1879. He retired in 1922, thus ending a continuous family curatorship of eighty-four years—surely a record.

Only those who had the good fortune to know and learn from him can appreciate his tremendous knowledge and enthusiasm. The greatest of all Irish horticulturists, it was his pleasure, and he conceived it to be a curator's duty, to distribute the rare plants that passed through his hands wherever he thought they would find a good home, and his widow LADY MOORE carries on the tradition from their charming garden at Rathfarnham.

With a rainfall of usually less than 30 inches, and a poor gravelly

soil with a high lime content, Glasnevin is not an ideal site, yet the collection of rare and beautiful plants is remarkable. This is no place to describe a botanic garden, but I must mention the unique collection of dwarf conifers bequeathed by MR. MURRAY HORNIBROOK, some of which are now not-so-dwarf, accommodated along a bank of the rock garden; and two trees. First, *Cedrus atlantica pendula*, planted by DAVID MOORE, 6 feet high in 1879, and now 23 feet with a 32-foot spread, presenting a dark glaucous green veil of extreme beauty (Fig. 108). Secondly, a most surprisingly healthy and lovely specimen of *Cupressus lusitanica glauca pendula*. Known as the "Cedar of Goa", it comes neither from that Portuguese enclave on the coast of India, nor from Lusitania (Portugal), but from Mexico. No wonder she does not appreciate her silver, slightly-drooping elegance being blown upon by biting winds. So give her some shelter and sun. I advise anyone interested in good plants to visit Glasnevin.

Bidding farewell to Glasnevin, my quandary is which direction to take. While Co. Cork has good claims to be considered the top gardening county, as we shall see, I believe most people who know their Ireland would plump for Co. Down or Co. Wicklow.

MOUNT USHER

Let us then go south to Ashford and visit Mount Usher, lying between the eastern slopes of the Wicklow Mountains and the sea, 3 miles distant, astride the River Vartry, whose burbling peaty-brown waters do so much to enhance the beauty of this lovely home of many good plants.

With an average rainfall of 38·21 inches, a limeless alluvial soil, a minimum temperature of 16° F. during the last four years (recorded in February 1956, 6° lower than any during that period) and good shelter from wind it will be realized that the situation is ideal for growing a collection of well-nigh all the trees, shrubs and other plants that an eclectic gardener could wish to grow. And that is what MR. E. H. WALPOLE is.

Work began about ninety years ago, and the place has had the good fortune to have been developed and loved by a sequence of good gardeners; and more, the enthusiasm of the present owner is inherited by his son, ROBERT WALPOLE. This is a rare uninterrupted tradition. All good gardens are the result of gradual development and alteration, as the owners realize what can be grown in their special conditions—I cannot think of one that has been laid down "plomp!" in five years! It is the privilege and pleasure of a good gardener to select and try out the introductions of the various collectors, whom I have mentioned earlier. The five continents, and probably every country, excluding the Tropics, are represented at Mount Usher. Before we look at the garden, if I name a few tender plants it may help to prepare you for what you will see. I suppose that to me the most surprising tree is the Kauri pine of New Zealand, *Agathis australis*; then come *Tetraclinis articulata* from

North Africa; *Tecophilaea cyanocrocus*, the Chilean "crocus"; *Anopterus glandulosa, Olearia hectori, Brachyglottis* and so forth—the last two looked dead after the February 1956 frosts, but have completely recovered.

Now let us look. From the house, across the Vartry, there are clumps of azalea, *Fothergilla monticola*, acers, a big *Taxodium distichum* and *Enkianthus* with cercidiphyllum for good measure; these, I think, are at their best in autumn. Of the last, *E. campanulatus* is by far the taller, in shades of flame and soft orange; but for sheer brilliance, bushes of *E. perulatus* dressed in hunting-coat scarlet, is comparable only to *Acer* 'Osakazuki'; and these two, because of their dazzling heat, are best used sparingly, foiled by paler colours, as they are here. The backgrounds of greens, the lemon or moonlight of *Ginkgo* and *Liriodendron*, and pale *Funkia*—I beg your pardon, *Hosta*—along the river make a perfect setting.

Going out by the front door, we must forget the seasons, and as SACHEVERELL SITWELL takes us around St. Petersburg on an 1870 day, in his enchanting "Valse des Fleurs", so must we see years of Mount Usher in a long afternoon. To right and left *Abutilon milleri* hangs his waisted bells of apricot; beyond we catch a glimpse of the furious magenta of *Abelia floribunda*, only to be equalled in colour on another wall, by *Cantua buxifolia*, softened by a butter-yellow reverse. Turn left, and there is a good bush of *Itea ilicifolia* hung with slender tassels of olive green. On this wall, too, is a fine piece of *Dendromecon rigidum*, the golden Californian "Poppy Bush", whose glaucous willow-leaves enhance its golden cups. Its height, some 20 feet, is only limited by the eaves. SIR FREDERICK MOORE, upon whose encyclopaedic knowledge I draw so often, has said of this, and other plants from California and similar sun-smitten climes: "Never plant on the flat; deep drainage and 30° slope, on a bank or against a wall, is what they want." Salvias of the *grahamii-greggii* persuasion flaunt their scarlets in opposition. But let us turn right, and across the lawn to the bank of the river, and look up the weirs to the maple grove across the stream, towards the brilliance of *Nyssas* and young *Pinus montezumae*, up along the newest part of the garden, the "Riviera"; and down along the older part, where we may hope to see the flash of a kingfisher or water-skimming flight of a brown white-chested dipper. Not many yards away on the further bank grows a remarkable form of *Chamaecyparis lawsoniana*, only 10 feet high and as much laterally, but perfectly pendulous, and so elegant. No name!

Walking to our right upstream, we pass the dwarf *Pinus sylvestris beauvronensis* which DR. MACQUEEN COWAN admired so much. You must imagine a Scots pine reduced to a solid dumpy bush of 4 feet high by as much in diameter both ways. This is a genuine Lilliputian, and as slow-growing as it is rare. Hence we get on to the "Island", as it was. Here MR. WALPOLE has done much cutting of alders and good planting. However, this afternoon would only get us round a quarter of Mount Usher, so I fear we must tip and run. *Phyllocladus trichomanoides* from New Zealand is very fine and hardy; and just beyond we come to a great

bed of *Orchis foliosa* from Madeira. Here delphiniums are grown as they should be, in large irregular groups amongst the shrubs, each group of one colour, and all blue, light or dark—no mauve is allowed. *Disanthus cercidifolius* is a tantalizing shrub, of 6 or 8 feet; no trace of lime will it tolerate, nor drought, but at Mount Usher it luxuriates in many places, its leaves so like those of the Judas tree, each autumn recalling the colour that only the finest claret can give. Against the fence by the road to the front gate are two superb magnolias—*M.* × *veitchii* and *M. sargentiana robusta*, the latter with flowers of rosy-lilac that look down at you like some huge water-lily.

Time presses. We have no time to walk up the "Riviera", over the new bridge and back the other side, but you must learn of just a few of the plants that are happy on the 10-foot-wide bank by the path and boundary wall. Callistemons in variety, raised I think from seeds brought back from Australia by SIR BASIL GOULDING, are settling down well, though frosts like those of early 1956 did cruel damage. MR. WALPOLE in this newest piece makes much use of cistus, and the fairly new *C. palhinhaii* is notable with flowers of the whitest silk with golden-stamened centres covering a rather dwarf rounded bush. *Rosa ecae*, with deep yellow flowers about the size of a florin, is perfectly at home, as are many species and hybrids of ceanothus. Right at the top by a small gazebo, is a little cliff in which *Calceolaria darwinii*, rare and difficult, with large-pouched brown-spotted yellow flowers barred with a white band, only 3 or 4 inches high, is worth going far to see; and in the moraine at its base is a magnificent 6-foot-wide patch of the prostrate *Verbena peruviana* (*V. chamaedrifolia*) of the most dazzling scarlet.

As we make our way to the bridge to leave the island, we pass on our right a remarkable piece of imaginative planting; *Lapageria rosea* and its white form twining up an alder to hang down its large waxy bells. A few yards over there are many clumps of *Rodgersia*, notably *pinnata superba*, rose pink, and *aesculifolia* with creamy plumes carried well above the imposing pinnate bronzy-green foliage.

Now over the river; to the right, upstream, a tree of *Nyssa sylvatica* is a landmark, each autumn breaking into a sheet of flame; and the other side of the path, a fine young tree of *Sorbus alnifolia*, neat and broadly pyramidal, also good in October. But let us go straight on to walk up a long wall, buttressed into compartments for added shelter. Here at once is a bed of *Tecophilaea cyanocrocus* (Fig. 112), that choice and difficult bulb whose intense blue flowers remind us, at a little distance, of a well-flowered clump of *Gentiana verna*. Perhaps MR. WALPOLE has solved the problem of cultivation. Coming as it does from Chile, where llamas are the common animal, he dresses his beds with sheep-manure. At any rate you will never see it as fine as it is here. Another rare plant which enjoys its home in one of these bays, is *Senecio pulcher*, so like one of the dwarf smaller-flowered cinerarias, with flowers of the same soft magenta that you often find in that family. It is non-invasive; indeed, it is very slow to increase, and grows some 18 inches tall.

Reaching the top of the wall, at the back, and scrambling along through other climbers, is the evergreen *Clematis indivisa lobata* from New Zealand, and definitely tender, but as seen here with long drooping pearly racemes it is the loveliest of all white clematis—yes, though not far away *C. armandii* in one of its best forms is good enough, and of course, hardy. Against a nearby buttress there is a fine piece of the beautiful—or shall I say most beautiful?—*Ceanothus impressus*. This species is remarkably hardy; for several winters two bushes right in the open in the L.C.C. Nurseries at Eltham have come through unscathed. Its sturdy, bushy habit, small, deeply-impressed leaves, and rich blue flowers combine to make it an eminently attractive shrub. A few feet away, *Ceanothus rigidus* tries to compete, but good plant though it is, neither in habit nor in colour does it compare favourably; its blue is smokier and its habit more gaunt. We are almost at the wall's end where we will turn sharp right and let imagination run riot. There have been no frosts, so we gaze upon the perfection of two *Magnolia campbellii* flaunting their rosy goblets in the March sunshine against a pale blue sky. This dress does not happen every year! When it does, fly to Mount Usher. You will even see a banana, rather tattered and torn, like the maiden all-forlorn—but living.

Now we must retrace our steps, stopping to poke our noses into the kitchen garden behind the wall, to see *Mutisia decurrens* luxuriantly thrusting its way up a high beech hedge, out of which its slender prehensile shoots peer out to show us in late summer the large tangerine daisy flowers. I have only seen it thus at Killerton near Exeter, and in MR. NORMAN HADDEN's garden at Porlock where it rambles indecently along a 4-foot fence. We bear half-right, to come out under a large *Acer griseum* at the head of the Maple Walk looking towards the house; their brilliant colours, seen in conjunction with a large bed of the bluest of blue hydrangeas, is good planting. A path bordered by good specimens of such trees as *Picea likiangensis*, and *P. spinulosa* on the southern boundary—we are still on the south or far bank of the river—leads into the wood, to a galaxy of good things. On a little narrow border by the stream in considerable shade, *Primula megasiaefolia* grows happily, and across the path from it the lovely *Anopterus glandulosus*, a Tasmanian shade and shelter-loving evergreen with glossy clethra-like leaves and spikes in spring of white cup-shaped flowers. It is only 4 feet high, but a tragedy befell it in the shape of a broken branch crashing on one of its little branchlets. Here at once comes MR. WALPOLE's love and genius; splints, tow and Vaseline, and you don't know that the plant was injured! A magnificent 20-foot plant of *Eucryphia moorei*—alas! as tender as *Nothofagus moorei*, which we also see here—is not only so elegant in flower, but obligingly provides self-sown seedlings. In the *shade* is the very beautiful *Viburnum alnifolium*, the American "Hobble-bush", so named because its ramifications tripped up the early settlers, which, about 8 feet, gives superb autumn colour. On the right is a fine *Magnolia obovata* (late *hypoleuca*) and a finer *M. rostrata*, whose great

opulent leaves are so much finer than its rather disappointing flowers. It is when these form the pronouncedly beaked (hence the specific name) seed heads that it can easily be distinguished. Here, too, is an amazing tree of the Kauri, *Agathis australis* (Fig. 116) from New Zealand, some 18 feet tall and unaffected by Wicklow weather; its hard, bronzy, lanceolate leaves and rigid growth are something prehistoric, but very beautiful. The ground is not bare; *Cornus canadensis*, *Trillium sessile*, both vinous-purple and white, and the elegant *Meconopsis chelidonifolia* with its 4-foot black swaying stems carrying dangling pale yellow cups do their duty. *Magnolia kobus* var. *borealis* is just getting old enough to flower, and amongst rhododendrons, mostly dwarf or medium, *R. griersonianum* is in superb form.

We must leave on our eastward route, passing hurriedly such good things as *Cunninghamia lanceolata*, *Dacrydium cupressoides*, *Pinus canariensis* and *Tsuga canadensis pendula* (or *sargentiana* as MR. WALPOLE's first label calls it: he never removes a label, only adds two or three as names change!). Coming out onto the broad grass path banked on each side by trees and shrubs of great distinction, we will select a few. *Betula maximowiczii* is probably the best in the British Isles, mentioned in ELWES and HENRY over forty years ago and now some 60 feet tall: this has the largest leaves and longest catkins of any birch, and a lovely flaking creamy trunk. To show its hardiness, there is, or was, a fine young specimen at Nuneham Park, Oxford, planted by the late LORD HARCOURT. Here, too, there are several specimens of *Athrotaxis selaginoides* from Tasmania, beautiful, narrowly pyramidal, not-so-tender conifers, which were raised from seed in 1915 from Kilmacurragh. Passing on our left a lovely bush of *Exochorda giraldii*, we see the finest sight in this great garden, *Pinus montezumae*, 75 feet high by 53 *yards* in circumference. (Fig. 106.) This pine from the borders of Guatemala and Mexico is *hardy*: it grows well, amongst other places, high on the Cotswolds at Stanway, and at Eastnor Castle on the Malvern Hills. To show its full beauty, as here, it must have shelter from cutting winds. With the possible exception of our own Scots pine, *montezumae*—what a wonderful name!—is the most beautiful of all pines, with his long, upward-pointing glaucous leaves, stiff and sturdy as the illustration shows. Its forms *hartwegii* and *lindleyi* should be avoided, floppy forms of the superb type. Seedlings at Mount Usher vary; one may be even more beautiful than his parent. On each side of it are great plants of *Cornus kousa* and *Cornus capitata* and a thriving young plant of *Pilgerodendron uviferum* from Patagonia. Very like its cousin, *Fitzroya*, from the same area, but with less pendulous branchlets, it is a more attractive little tree, so rare as to be hardly known, yet not difficult to grow or propagate. A little further and we see *Tetraclinis articulata*, a very tender tree from Algeria; then the great specimens of *Magnolia salicifolia* dominating the left side of this vista.

On the right we have passed a glorious *Davidia involucrata*, a sheet of white "pocket-handkerchiefs" in spring, *Aesculus indica* and very

good rhododendrons, and then we come to a large bush of *R. maddenii*, next to a huge *R. augustinii*, a lovely coloured form. Behind, hardly seen without a dive through the bushes, is a tall tree of the finest poplar, with long pale yellow catkins, *Populus wilsonii*. This right-hand bank is terminated by a very fine tree of *Liriodendron chinense*. Turning out of this broad green glade, a winding path leads through what you might think is a piece of natural open coppice; natural it is, but most cunningly planted are all sorts of choice trees and shrubs. There is a goodly bush of *Lindera triloba*, whose autumn leaves are pure moonlight. A few yards away, a big *Magnolia campbellii* has flowered twice! Here and in other parts of the garden *Podocarpus* are most attractive: *totara*, *hallii*, *acutifolius* and *nivalis*, *nubigenus* and *salignus* (*chilinus*), the last a very fine specimen of about 40 feet. I list these plants because I think they are hardier than is usually believed. *Fitzroya cupressoides*—lately *patagonica*—dear me, these name-changes!, and *Dacrydium franklinii*, *Athrotaxis laxifolia* and the ubiquitous but easy and beautiful living fossil, *Metasequoia glyptostroboides* are only four of the good conifers.

Bounding the coppice is the river, and on the hither bank as we mount the lowest of the bridges is a vast tangle of *Actinidia chinensis* and *Rosa brunoni*, its far-flung arms scenting the air in July with hundred-flowered trusses of white, with gold-stamened centres. Across the stream, to the right, are two fine plants of *Stewartia pseudo-camellia* and *S. koreana*, whose lovely pearly cups in July are followed by an autumn mantle of scarlet and gold. Beyond, we come to a large spreading umbrella of *Sorbus vilmorinii*, each October laden with rosy fruit.

Near here, to the left, we find ourselves in the middle of the main planting of *Nothofagus*, the southern beeches from South America and the Antipodes, of which genus every species thrives at Mount Usher. *N. dombeyi* is a great tree, a richly green evergreen pyramid of some 65 feet, (Fig. 115), while *N. menziesii* and *N. solandri* with small box-shaped leaves, the former round and toothed, are most elegant. A very good specimen of the uncommon *Fagus sylvatica zlatia* with its gold-suffused leaves, is curiously attractive against its dark companions, of which a beautiful symmetrical *Picea breweriana* from western North America, with its pendulous branchlets, is outstanding. And a few yards away stands about the biggest tree of *Malus hupehensis* that I know—not forgetting the one in SIR GEORGE CAMPBELL'S garden at Crarae. Easy, fast-growing and hardy, as beautiful in late May as it is in autumn, this crab, which we knew as *M. theifera*, is surely the choicest in a valuable family. Along the boundary on our right, MR. WALPOLE has planted a collection of *Eucalyptus* raised from imported seed. *E. bicostata*, with very long scimitar-shaped leaves rimmed with ruby has always attracted me. But this is only one of the unique number of species, all doing well. At the end of this walk there is a well-placed young tree of *Sorbus thomsonii*. The only record of it that I can find is in *Plantae Wilsonianae*, where we learn that the younger HOOKER found and named it; but it seems that it was left to WILSON to introduce it. The only tree of this vintage is

at Kilmacurragh, from which SIR FREDERICK MOORE brought MR. WALPOLE some cuttings; of these he rooted one! But he has struck several since. At any rate it is an extremely attractive member of the *Aria* or Whitebeam Section, with large glaucous leaves, and an open rather pyramidal habit. Behind it is a perfectly shaped tree of *Magnolia delavayi*, unaffected by any weather. How much finer, where this is possible, than when crucified against a wall! On the other side of the path are some lovely crimson *Leptospermums*.

As the tea-bell rings—gardeners are always late for meals—we must slip back to the tennis court, passing as we go the silver-wax of a healthy young plant of *Abies concolor candicans*. We have come to see Mount Usher's most famous progeny—*Eucryphia* 'Mt. Usher', a natural hybrid (like *E.* 'Nymansay') of *E. glutinosa* × *cordifolia*. There are, of course, many specimens of it in two or three selected forms, but the group at which you are looking is a huge 45-foot solid clump. As we should expect, it varies both in foliage and flower between its parents, some leaning more to one, some to the other; it is a magnificent, easy, free-flowering hybrid worthy of its distinguished name. Around it MR. WALPOLE has wisely assembled every known species and hybrid of this family—and what an enchanting family it is—from the southern Andes, and New Zealand and Tasmania. Just here, you must notice a beautiful piece of *Libocedrus chilina*, not always in such good health.

Hurrying back to the house, on our right is a large dumpy bush of *Betula medwediewii*, pale golden each autumn, and over the millstream near the house, perhaps the original tree of the Coral Bark maple, particularly attractive when winter sunlight lights up its slender bright carmine branches, acquired from T. SMITH of Newry many decades ago; and coming down to earth as it were, are two or three little 18-inch bushlets of the delicious *Euphorbia amygdalina variegata*.

In an article such as this, it has not been possible to write of a tithe of the plants that MR. WALPOLE grows and shows off so well. Let us salute one of the greatest of gardens.

CAMELLIAS AND THEIR CULTIVATION

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(*Lecture given on April* 15, 1958, SIR GILES LODER, BT., *in the Chair*)

MR. J. R. SEALY of the Royal Botanic Gardens, Kew, has assured us that the genus *Camellia* consists of approximately eighty species. The majority of these are not hardy and are of little interest to horticulturists.

For the purpose of this lecture, I intend to mention only those grown in this country for their beauty as flowering shrubs or small trees. These

include *Camellia japonica*, *C. saluenensis*, *C. reticulata*, *C. cuspidata*, *C. oleifera*, *C. sasanqua* and some of their hybrids and variants, as well as in a minor way, *C. sinensis*, *C. taliensis* and *C. maliflora*. All are evergreen plants.

MR. SEALY has also informed me that *C. fraterna*, *C. granthamiana* *C. hongkongensis*, *C. pitardii* var. *yunnanica*, *C. rosiflora*, *C. salicifolia*, and *C. tsaii* are all in cultivation in this country, but I do not intend to refer to them in this lecture as so little is known of some and others are not hardy.

First, the tea plant *C. sinensis*. This is the most important species of the genus, being of great economic value. Its small white flowers will not cheer our hearts with their beauty, but when the leaves are dried and "brewed" tea is the joy of Britishers everywhere. This plant is not generally hardy in this island outside Cornwall and the extreme south-west of Scotland.

Next, *C. taliensis*, which resembles *C. sinensis* in leaf and lack of hardiness, but has rather larger white flowers, and a larger boss of stamens. The two-inch flowers have an outer ring of five petals and an inner ring of four smaller and narrower ones. The yellow stamens are very numerous and project from the centre of the flower three-quarters of an inch. The flower buds form in the axils of the leaves along the whole length of the current year's growth, seldom solitary, mostly in twos and threes. These buds are perfectly round and when the size of green peas they become pure white, and continue the same colour while increasing in size until they are the size of an edible cherry, adding greatly to the attractiveness of the shrub from September until December.

C. maliflora is hardy at Wisley. It has small leaves, with incomplete double pink to rose-pink small flowers which never disintegrate even when they fall to the ground: it is seen at its best when grown in a cold greenhouse.

C. japonica with its many hybrids and variants is probably the most important species from the horticultural viewpoint. It has lovely glossy rich green leaves and the type plant had single red flowers. The history of the plant, together with the introduction of its hundreds of hybrids and variants, could fill a book on its own, but it is not my intention to take up valuable time this afternoon with historical facts. For those who may wish to study the history of these camellias thoroughly, I strongly advise them to read MRS. B. LESLIE URQUHART's book *The Camellia*. After tireless and painstaking investigations, the author has written a very full and authentic account.

The realization during this century that *C. japonica* and its many cultivars are undoubtedly hardier than was generally recognized has created a demand much in excess of the available supply. I have often heard the remark that *C. japonica* is as hardy if not more hardy than the common laurel and this I believe to be the truth. Given shelter from the full blast of the north and east winds, with semi-shade during the

hottest part of the summer day and lime-free soil, these plants will make one of the most decorative of evergreens even when not in flower.

The numbers and names of *C. japonica* variants are legion, their forms various, and the colours range from pure white through all shades of pink to rose, scarlet red to crimson, even purple to mauve, together with striped and blotched bicolors.

C. japonica variants. All lovers of camellias are fully aware of the great confusion existing in the nomenclature of *C. japonica* variants, and all will be happy to learn that at last an International Advisory Committee has been formed to try and unravel the muddle. This has been made possible by a very generous grant from the Longwood Foundation, U.S.A., and will be under the direction of DR. GEORGE H. M. LAWRENCE, Director of the Bailey Hortorium. The field work and research is being undertaken by MR. RALPH N. PHILBRICK, a botanist living in Los Angeles. It is hoped that every keen and knowledgeable camellia enthusiast will help the experts in every possible manner, with old books, old catalogues, and with any information at their disposal that might prove helpful.

The popularity of camellias as greenhouse plants in the early part of the eighteenth century led to the importation of many new varieties, chiefly from France, most of which were of Japanese origin, and this is how some of the present-day confusion arose. There is ample proof that Japanese names were changed to Latin, or new French or English names created, resulting in the same variety becoming known under different names in different countries, with no register recording the changes.

C. japonica variants are also very prone to bud sporting or mutation. It is not uncommon to find an old-established plant with as many as three or four different coloured forms of the particular plant flowering simultaneously.

Another factor which adds to the confusion is the difficulty arising when a plant may show constancy in colour, but not in form of flower, producing double, semi-double and even singles on the same plant. In these cases the propagator must select material for vegetative multiplication with the greatest of care, sometimes necessitating the labelling of branches at flowering time.

Seeds from *C. japonica* hybrids are easily germinated and being hybrids will not come true, the result being a new batch of variants; many are given names already taken by previous varieties. Unfortunately most of these new variants are of poor quality and should only be reserved as stock plants for grafting purposes: yet in their owner's eyes these new plants are cherished, grown on and sometimes given away to their friends with new names, and eventually mixed up with the already existing chaos waiting to be sorted out.

Bearing these remarks in mind, it must be apparent that a great task awaits the authorities of the Bailey Hortorium, and they have our best wishes and any possible help we can give to their efforts to standardize the nomenclature of camellias should be forthcoming.

It is not my intention to make long lists of the best *C. japonica* variants, as this must of necessity be governed by my own likes and dislikes, but rather leave the choice to the individual, for it is only natural and correct that not everyone will agree on the respective beauty and charm of the various colours and forms.

My own twelve best *C. japonica* variants would include many which were introduced over one hundred years ago and several of the twelve even one hundred and fifty years ago. On reflection, this does not speak well for the efforts of hybridizers over the years, much of which must have been of a haphazard nature. The introduction of new species during this century may rectify this failing. However, I realize that many beginners need help when selecting camellias for the first time, and at the end I propose to recommend:

1. Six camellias for the beginner.
2. Twelve for planting outside.
3. Twelve for planting in the cold greenhouse.
4. Six for pot or tub culture.

taking into consideration varieties available in the trade.

The world-famous camellia expert, MR. RALPH PEER, of Los Angeles, has well over two thousand hybrids and variants in his garden at Park Hill, Los Angeles, California, which is probably the largest collection anywhere in the world, but in this country one or two hundred of the best would be more stock than most nurserymen would care to carry.

Classification of cultivars. The identification of the various forms of camellias can be puzzling even to the experts, especially so when exhibiting blooms in the specialized classes at horticultural shows. To help the exhibitor and those generally interested, the classification of cultivars as proposed by the Royal Horticultural Society's Camellia Nomenclature Sub-Committee is as follows:

I. *Single.* Stamens forming a central mass sometimes with an occasional one becoming slightly petaloid, and surrounded by usually 5–7 petals and at most by 9 petals.

II. *Semi-double.* Stamens forming a central mass sometimes with an occasional one becoming petaloid and hardly separable from a true petal, and surrounded by at least 9 petals and usually by between 14–20 in two or more rows.

III. *Anemone Form.* A flat flower with one or more rows of larger outer petals; the centre a convex mass composed of petaloids and stamens intermingled.

IV. *Paeony Form.* A deep rounded flower with several rows of outer petals; the centre a convex mass of twisted petaloids and stamens.

V. *Rose Form.* Imbricated petals showing stamens in a concave centre when fully open.

VI. *Formal Double.* Fully imbricated with many rows of petals seldom showing stamens.

Camellia × *williamsii*. I have mentioned *C. japonica* and its variants, but I now wish to draw your attention to what I consider to be another equally important group, that is, the *C.* × *williamsii* cultivars. Here we have a wonderful type of plant, faster growing, freer flowering, more elegant in habit with a longer flowering season than *C. japonica* variants: in fact, *C.* × *williamsii* cultivars begin to flower late in January and continue until April is almost over. True, frosts come periodically, and the flowers are cut, but there is no need to get discouraged as the plant sheds these spoilt flowers and immediately sets about opening later buds, and of these there is an abundant supply. Plants struck from cuttings here at Wisley during July 1946 are now up to twelve and more feet high, whereas the *C. japonica* variants of the same age are only half that size, less graceful in habit and, although most desirable, in my opinion they are not quite the garden plants that *C* × *williamsii* has proved to be.

C. × *williamsii* 'J. C. Williams' planted amongst the hardy trial rhododendrons on Battleston Hill before the last Great War withstood the severe frosts of the winter of 1946–7 when the thermometer at Wisley fell to nearly zero. This plant is now fifteen feet high and twelve feet through, and what a picture it has been this spring, covered with the large, pale, flesh-pink flowers during all mild periods since the end of January until now, the middle of April. Surely this is a first-rate group of garden plants, holding its own with the best plant introductions of the century.

Before preparing these notes, I sent a circular letter to most of the noted gardens in Scotland, north of a line from Glasgow to Edinburgh, and with one exception all agreed that in their particular garden *C.* × *williamsii* was the most reliable camellia for flowers. It appears that the farther north you plant the less dependable is *C. japonica* for flower. Some owners even condemned *C. japonica* as never blooming in their particular area. A word of warning. It is unwise to judge *C.* × *williamsii* plants during their early years. To appreciate their full garden value you must wait until the plant is well and truly established with heights of ten, twelve or more feet high. Then, and only then, is this plant seen at its best.

Staking is a must, as *C.* × *williamsii* possesses the tall, quick-growing habit of one of its parents, *C. saluenensis*. It needs judicious pruning in its early age, which will help considerably, but a good strong stake with careful tying makes doubly sure of seeing your plant safe and sound after a heavy snowstorm or strong gale.

I must spare a little time for a few remarks concerning *C. saluenensis*. This species was introduced by the late MR. GEORGE FORREST, V.M.H., in 1924 under Forrest No. 24090. It was for a time known as *C. speciosa* and also as *C. pitardii*. During the spring of 1936 I well remember exhibiting the plant as *C. pitardii* before Floral Committee B of The Royal Horticultural Society, for my then employer, the late MR. LIONEL DE ROTHSCHILD, V.M.H. All the time MR. SEALY (the camellia authority of the Royal Botanic Gardens, Kew) doubted the identity and afterwards

confirmed its correct name as *C. saluenensis*. This species cannot claim to be as hardy as *C. japonica*, but it stands all but the most severe of winters at Wisley.

This award plant was grown from seed from FORREST's original sending and produces small flowers identical in size and colour to the wild dog rose (*R. canina*). It is worthy of note that the flowers of different plants of this species vary considerably, both in shade of pink to deep magenta, also in size and form, and when contemplating using this species for hybridization purposes the best forms should be used. The introducer who found this plant in Yunnan, on the Shweli–Salween Divide, stated that in the wild there were crimson, white, and all shades of pink varieties. A white form is grown at Bodnant, but to date I have not heard of a crimson-flowering *C. saluenensis*. However, now that the species is fruiting constantly in this country, and is so easily raised from seed, a sharp look-out should be kept for all distinctive breaks in colour.

To the late MR. J. C. WILLIAMS must go the credit of producing the first *C.* × ***williamsii***, but since then other notable horticulturists have been busy introducing hybrids obtained by the crossing of *C. saluenensis* with various forms of *C. japonica*. Outstanding amongst them is *C.* 'Donation', introduced by the late COLONEL STEPHENSON R. CLARK, V.M.H., of Borde Hill, Sussex. *C.* 'Donation' has attained heights of up to 12 and 14 feet in certain gardens in this country. I do not think it possible for any lover of camellias to visualize its outstanding beauty unless he or she has been favoured with the opportunity of seeing such plants in full bloom. Its large true pink, semi-double flowers are produced in abundance and to date I have not seen any browning of the foliage due to frost (Fig. 120).

C. reticulata and its garden forms give us probably the finest and most magnificent flowers of all camellias, but it must be stated at once that only in the most favourably sheltered of all gardens can these plants be safely grown out of doors on a wall or in a sheltered woodland. Even in these fortunate localities extra shelter in severe weather is advisable.

C. reticulata 'Captain Rawes' with its five to six-inch semi-double deep rose-pink flowers has been in cultivation in this country since 1820, and was long known as *C. reticulata semi-plena* or just "Garden Form".

After a wait of over 100 years, in 1924, GEORGE FORREST collected in Western China seeds of a wild form with single flowers. These seeds germinated and the first to flower was at Caerhays in Cornwall during the spring of 1932.

Immediately after the Second World War news came from Yunnan that in and around Kunming (the capital of that province) numerous garden forms of *C. reticulata* were growing. With the help of PROF. H. T. TSAI, of the Yunnan Botanical Institute, MR. RALPH PEER was successful in importing nineteen of the best varieties into America. At the same time with the latter's help a consignment reached Wisley. A few failed to survive the journey, but the others flourished, one of which 'Tayinhung' (syn. 'Shot Silk'), received an Award of Merit from The

Royal Horticultural Society. At the present time good young plants are being established, grafted on *C. japonica* stocks. All the varieties of these recent introductions have large blooms of outstanding merit.

I cannot leave *C. reticulata* without reference to two wonderful plants of *C.* 'Captain Rawes' growing in perfect health at Chatsworth House Gardens, Bakewell, Derbyshire.

About four years ago I had the pleasure of visiting this noble estate, where that "gardener of gardeners", the late SIR JOSEPH PAXTON, worked and created wonders. Imagine my surprise to find growing in "The Glass Case" the two finest plants of *C.* 'Captain Rawes' I have ever seen. The glass cover is in good order, 32 feet 8 inches in length, 9 feet 6 inches wide, with double doors at each end and another central pair. The glass house is built against a high wall and is 24 feet high. A bush plant of *C. japonica* 'Alba Plena' is planted in the middle, immediately in front of the centre doors and on either side trained against the wall is *C. reticulata* 'Captain Rawes'.

I am informed that according to records by the SIXTH DUKE OF DEVONSHIRE in *Handbook to Chatsworth and Hardwick*, written in 1844, the Camellia House was built in SIR JOSEPH'S "reign" about 1840, and the *C.* 'Captain Rawes' planted about that time. These two centenarians have been exceedingly well cared for down the generations, being well tied in and pruned, and completely covering the wall. When I saw them they appeared in every way to be perfect specimens and I understand that each plant is carrying upwards of 1,300 blooms this spring.

When comparing *C. reticulata* with *C. japonica* or *C.* × *williamsii*, it must be remembered that the former has more or less one crop of flowers and does not bloom continuously over two or three months, as do *C. japonica* and *C.* × *williamsii*.

C. sasanqua is highly thought of in the U.S.A., especially so in the extreme west, and there the many new coloured forms have proved to be good garden plants, even when planted as hedges. This plant is perfectly hardy in this country, but flowering as it does from the end of October until well into December its flowers are quickly spoilt by the slightest frost. The white flowers of the true plant are small and single, but the newer garden forms have larger blooms both single and double, being white and various shades of pink, rose and red.

C. oleifera resembles *C. sasanqua* in hardiness, but has larger leaves and flowers. The latter are said to be sweetly scented on the true type. The plant varies considerably in cultivation in this country and it is difficult to distinguish the true plant. It is a native of China where it is widely cultivated for its seed from which an edible oil is extracted.

C. cuspidata. This plant is perfectly hardy and has much smaller leaves than most members of the camellia genus. Its very small white flowers are freely produced. This species was introduced by WILSON from China. Hybridized with *C. saluenensis* it has produced 'Cornish Snow' and other small-leaved hybrids.

Soil moisture and drainage. "Lime-free soil" is the term used so often

as being the best medium suitable for camellia culture. This I consider to be too loose a statement, and I believe the better advocacy would be "lime-free soil rich in humus". Just lime-free soil could consist of almost pure sand or gravel, needing regular applications of nutrient solutions in adequate amounts to promote healthy and sufficient growth. Organic matter in the form of peat, leaf-mould or rotted farmyard cow manure is essential to obtain the correct physical structure of the soil and to maintain soil fertility. Again the sweeping statement "lime-free soil" is most dangerous as it includes a very wide range of pH values from one extreme 7·0, nearing alkalinity, down to 3·0 or lower, when soil becomes so acid that nothing will grow.

Perhaps a few words at this stage on the meaning of pH might be helpful.

Chemists when referring to the reactions of soils speak in terms of pH—this being a measure of hydrogen-ion concentration. A pH of 7·0 is the neutral point where acidity and alkalinity are in balance. Above this reaction you find the alkalinity increasing as the figures rise, while below a pH of 7·0 the reaction is acid, becoming more acid as the figures decrease.

From my experience camellias grow exceptionally well in truly acid soils as low as pH 4·2, but I find that when plants become really established in these conditions they need help and benefit considerably from biennial mulchings of rotted cow manure well and truly watered in. Although camellias will succeed in these very acid soils, they are not so exacting as rhododendrons in their demands and will grow quite successfully in a much higher pH value than the considered optimum for rhododendrons, which is pH 5·3.

John Innes potting compost with a pH of 5·0 to 6·0, and minus the ground limestone or chalk, will be found most suitable for the cultivation of camellias in tubs, pots or their containers.

When the necessity arises to plant camellias out of doors in heavy clay soil, take extra care to drain the required area and if possible dig ample large planting holes in the early autumn, leaving them open to get the benefit of winds and frosts until the following spring. This treatment of clay soils will make it possible to break down the heavy soil into small particles, when a liberal supply of peat or good leaf-mould can be thoroughly mixed with it at planting time. When working any heavy soils always choose dry weather when the soil is in good condition.

Camellias, like rhododendrons, love plenty of well-drained moisture. COL. T. DURRANT, President of the South Auckland Camellia Society, New Zealand, lent me a picture showing a group of *C. japonica* in full flower and in perfect health, growing in a district with a rainfall of 120 inches per annum.

Fortunately it is not necessary to have such a heavy rainfall to gain success in camellia culture, but it does demonstrate that these plants want moisture. If planted in a dry position and allowed to become really dry for long periods camellia plants speedily become "sticky" and bone

Photo: J. P. Fanning

FIG. 106—*Pinus montezumae* at Mount Usher. A wonderful specimen 75 feet high by 53 yards in circumference (see p. 373)

Photo: Brooklyn Botanic Garden

FIG. 107—Japanese Garden at the Brooklyn Botanic Garden, New York (see p. 393)

Photo: J. P. Fanning

FIG. 108—*Cedrus atlantica pendula* at Glasnevin Botanic Garden. This tree is now 32 feet across with a height of 23 feet (see p. 369)

Photos: J. E. Downward

THE GARDENS AT CLARE COLLEGE, CAMBRIDGE

FIG. 109—The summer border, with blue and yellow predominating (see p. 389)

FIG. 110—The College Garden seen across the river from the Master's Gardens with *Thuja orientalis* in the foreground on the right (see p. 389)

Photos: J. P. Fanning

FIG. 111—*Tecophilaea cyanocrocus* at Mount Usher (see p. 371)

FIG. 112—The River Vartry which runs through the gardens at Mount Usher with *Cordyline indivisa* in the foreground.

Photo: R. P. Scase

CAMELLIAS AND THEIR CULTIVATION

FIG. 113—*Camellia japonica* 'Adolphe Audusson' (see p. 386)

Photo: P. M. Synge

FIG. 114—An unusually fine specimen of *Camellia japonica* 'Adolphe Audusson' in the gardens of Sir Giles Loder, Bart., at Leonardslee, Sussex

Photos: J. P. Fanning

IRISH GARDENS AND GARDENERS

FIG. 115—*Nothofagus dombeyi* at Mount Usher, a fine tree 65 feet high (see p. 374)

FIG. 116—*Agathis australis*, the Kauri Pine of New Zealand, at Mount Usher (see p. 373)

FIG. 115—*Nothofagus dombeyi* at Mount Usher, a fine tree 65 feet high (see p. 374)

Mount Usher (see p. 373)

Photos: J. E. Downward

THE GARDENS AT CLARE COLLEGE, CAMBRIDGE

FIG. 117—The fine old Judas Tree (*Cercis siliquastrum*), with the College bridge in the background (see p. 390)

FIG. 118—The summer border, with the Swamp Cypress (*Taxodium distichum*) and King's College Chapel in the background (see p. 388)

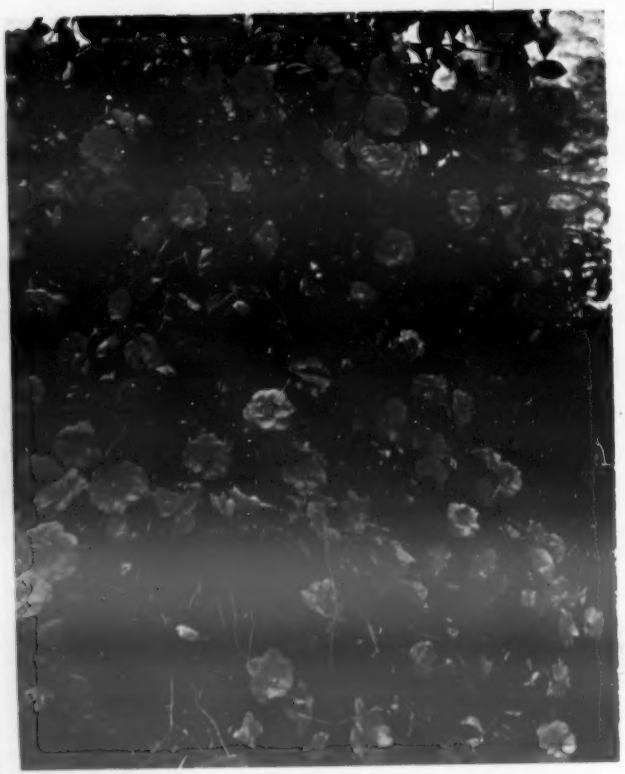

Photo: Sir Giles Loder

CAMELLIAS AND THEIR CULTIVATION

FIG. 119—*Camellia japonica* 'Lady Clare' at Leonardslee (see p. 386)

Photo: P. M. Synge

FIG. 120—*Camellia* × *williamsii* 'Donation' at Trewithen Cornwall (see p. 380)

hard in texture of growth, resulting in smaller leaves, short growths and no flowers. It must be remembered that camellias produce their flower buds on the current year's growth, and unless the plant is given the conditions to become vigorous with ample new shoots, the crop of flowers must (if any at all) be small.

Plants grown in containers for greenhouse culture must never be allowed to become bone dry, but should this happen the receptacle containing the plant must be placed in a tank of rainwater until the soil is thoroughly soaked.

The best time for repotting large flowering plants is immediately after blooming and before the new growth begins to appear. Great care should be taken to have pot-bound plants well watered before transferring to larger containers, when no more watering will be needed for several days. Following this potting extra special attention to the plant's needs for water is essential to prevent the new soil from becoming soggy thus allowing the roots to penetrate into the new sweet soil.

At this period of growth keep the greenhouse moderately humid by damping the staging and paths each mid-day, and on all favourable sunny days by syringing the plants overhead with rainwater early morning and again during late afternoon. Good drainage at all times is essential for the cultivation of camellias, both under glass and in the open.

Whilst dealing with the question of moisture, mention must be made of mulching as a necessity for camellia-growing in full sun. This conserves soil moisture by reducing evaporation and at the same time it keeps the surface roots cool. Plants growing in woodland conditions get a certain amount of natural mulching with leaves and debris, but even so they will benefit by an occasional artificial application. For large, worn-out plants, old rotted, decayed cow manure is best, but good beech or oak leaf-mould, pine needles and spent hops all help. Camellias, like rhododendrons, are surface-rooting and mulching should be done lightly and often, rather than heavily and at infrequent intervals. An excellent mulching for pot plants and plants growing in soil beds under glass is 14 lb. of best bonemeal to each cwt. of granulated peat. This should be applied during late spring to encourage new growths. It is unwise to cultivate the ground under and around surface-rooting camellia plants. Hand weeding, leaves, bracken and mulching should be sufficient to keep all weeds in check. Extra feeding by mulching should be given at a time when the plant receives the greatest benefit. This should be immediately after flowering and before new growth appears. The first flush of new growth during the spring is important as this is the one which produces the flower buds the following autumn. Should this early growth become severely frost bitten, secondary growths (as is the case with rhododendrons) seldom if ever produce satisfactory flowers. To get the full benefit from mulching, it is wise to water it well in as soon as applied.

Camellias under glass. Where cold glasshouse space is available the growing of camellias in borders of suitable soil is a most economical

Fig. 120—*Camellia* × *williamsii* 'Donation' at Trewithen Cornwall (see p. 380)

Fig. 119—*Camellia japonica* 'Lady Clare' at Leonardslee (see p. 386)

CAMELLIAS AND THEIR CULTIVATION

and profitable means of cultivation. When possible it is wise to devote the whole house to camellias, and then with careful selection a glorious display of blooms will provide interest from December to the end of April. The shelter under glass protection provides the opportunity of growing to perfection, away from the winter and spring storms and tantalizing frosts, the finer and larger varieties which are seldom seen at their best in the open.

Trained against the wall of the house or grown as bush plants, *C. japonica* and *C.* × *williamsii* cultivars will give much pleasure during the beginning of the year, even if grown with no artificial heat. The wonderful *C. reticulata* cultivars would need a little heat during the severe winter spells, but just a frost-proof temperature is all that is needed.

With occasional pruning, careful attention to watering and syringing, partial shade from early April until early August, plenty of ventilation during summer and winter avoiding cold spells, and, above all, the best possible drainage, camellias will flourish, grow to perfection and more than pay the rent of the glasshouse by the interest they will create.

Light and temperature. In Volume LXXV, p. 158, of The Royal Horticultural Society's JOURNAL, CAPT. COLLINGWOOD INGRAM writes: "In Vigo in north-west Spain the authorities have planted double white and pink varieties of camellias as roadside trees, and at the time of my visit in early January all were heavily budded and promised a fine display. Some of the plants had formed small trees fifteen feet high." "In the Azores where Camellias are often used as hedge plants they are frequently grown in full sun."

Friends from the centre and north of Scotland inform me that *C. japonica* cultivars do not flower freely in their gardens. Taking into consideration CAPT. INGRAM's writings, this may be due to the late growth development and the colder autumn nights, when the temperature is too low for successful bud formation.

Camellia plants grown in too dense a shade will produce more straggly growths, and set far less flower buds than plants in a more open and lighter position: the higher light intensity increases flower production. Favourable warm nights, with temperatures not lower than 55° F., are essential during the critical stage immediately after the flower buds begin to develop until after they are set. This period in the south of England is roughly from the end of August until October. Cold nights at this most important time, even if the temperature does not drop to freezing point, can do untold harm, resulting in a drastic check to the buds' growth, sometimes causing premature bud drop which is equally as severe a deterrent as drought at this period.

Plants grown in containers in this country are usually flowered under glass and then left in the shelter of the greenhouse until the new growth has developed and hardened, after which they are usually placed or plunged outside in the shade of a south wall or under trees. Such treatment is quite suitable during the hot months of the year, but as soon as August arrives the plants should be given the extra light and temperature

necessary for maximum flower bud development. Should a cold airy greenhouse be available, then there is no better place, but failing this let your plants have as much light as possible. Given this extra ripening treatment at this period of the plant's growth the flower buds will ripen and set, after which the greatest proportion of *C. japonica* cultivars will withstand the hardest of winters with no ill effects, and only when the buds break colour will frost touch them.

A word of warning, although camellia plants in full sun will flourish, grow and flower freely, a position in the woodland with a light canopy high overhead is advised to give shelter to the flowers during light frosts in early spring.

Likewise, a well-sheltered north, north-east and north-west wall presents the plants with shelter which is most beneficial for all early flowering plants. Although the camellia will grow in full sun, plants grown on a south or south-facing wall soon suffer from leaf scorch during late May until early July when the new growths are young. It appears that the sun shining direct on and trapped against the wall becomes too intense, whereas in an open position the hot air can disperse.

Pruning and disbudding. Camellias generally speaking do not need pruning in the true sense of the word, but like children need training, especially in their youth, to make them form the foundation for after success. At this period the knife should be used with discretion to make the young plants break sufficiently to form good sturdy plants. Plants in pots usually need a stiff strong cane to hold them erect, and will also require slight training by pruning after flowering. The grower will realize that different varieties have different habits and common sense should determine the exact requirements of individual plants. Plants grown in the open have a tendency to grow irregular branches, which need shortening back. Very old plants often become rejuvenated by hard cutting back, mulched with old manure and well watered in, when they will break into growth even from the hardest wood.

Disbudding depends much on variety and whether or not the grower intends to exhibit at special Camellia Shows, either for spray effect or single blooms. Generally speaking, to obtain large and finer flowers disbudding is necessary, especially so with the large flowering cultivars of *C. japonica*, leaving buds at various stages of development to assure a long flowering season. Remember always that the leading bud usually produces the finest blooms. The very late small buds have far less petals in their make-up and seldom come true to form. The beauty of *C.* × *williamsii* cultivars lies in their floriferous sprays of blossoms and their long flowering season. With this group of camellias, disbudding is not advised. The same can be said of the small flowering cultivars of *C. japonica*.

Pests and diseases. Camellias when grown in the open to perfection seldom become subjects of attack to pests and diseases. The usual garden measures are sufficient to combat occasional attacks of scale, aphis and caterpillars.

The yellowing of the leaves can oftimes be traced to alkaline poisoning and the mottled yellow leaves to a virus (with no known cure).

Flowers attacked with flower blight (*Sclerotinia camelliae* Hara), a fungus disease identifiable by brown and blackish spots appearing on the petals as they begin to open, are best picked off and burnt. All fallen buds should also be destroyed. Before handling further clean plants, the operator should thoroughly wash his or her hands.

Transplanting of large camellia plants in the open is quite simple and can be made a most successful garden operation. The plants for moving must be thoroughly soaked to await a dull or, for preference, a misty damp day any time during the plant's dormant stage from October to March. Lift with a ball of soil: the amount of soil attached to the roots must be governed by the size of the plant. After transplanting mulch and well water. Plants from containers can be planted out at any time, provided all young soft growths are completely hardened off. If hot weather follows transplanting, shading will be needed.

RECOMMENDED CAMELLIAS

List 1. *Six for the beginner*

These must include a variety of colour as well as form. These six are well-tried old cultivars which can be relied upon to give a good return for practically any purpose, either inside or outside culture:

C. japonica 'Adolphe Audusson' (dark red, semi-double) (Figs. 113 and 114)
" " 'Donckelarii' (red blotched white, semi-double)
" " 'Elegans' (pink, anemone form)
" " 'Alba Simplex' (single)
" " 'Eximea' (deep crimson, formal double)
" " 'Preston's Pink' (pink, paeony form)

List 2. *Twelve for planting outside*

Our next list for planting outside must include a good sprinkling of the *C.* × *williamsii*, together with other cultivars that will stand outdoor conditions and not easily become damaged by rain, etc.

C. × *williamsii* 'J. C. Williams' (soft-pink, single)
" " 'Mary Christian' (deep rose, single)
" " 'Donation' (bright pink, semi-double)
" *japonica* 'Alba Plena' (white, formal double)
" " 'C. M. Hovey' (bright crimson, formal double)
" " 'Elegans' (pink, anemone form)
" " 'Althaeaflora' (dark red, paeony double)
" " 'Gauntlettii' ('Sode-Gakushi') (large white, semi-double)
" " 'Lady Clare' (rose-pink, semi-double) (Fig. 119)
" " 'Adolphe Audusson' (dark red, semi-double)
" " 'Gloire de Nantes' (early, rose-pink, semi-double)
" " 'Donckelarii' (red blotched white, semi-double)

List 3. Twelve for planting in the cold greenhouse

The recommended list for growing in the shelter of the cold greenhouse gives us the opportunity of planting some really fine large cultivars which are rarely seen at their very best in the open.

C. reticulata 'Captain Rawes' (large deep rose, semi-double)
C. japonica 'Mathotiana' (large deep crimson-rose, formal double)
" " 'Mathotiana Rosea' (large pink, formal double)
" " 'Mathotiana Alba' (large white, formal double)
" " 'Rubescens Major' (large rose-red veined, formal double)
" " 'Magnoliaeflora' (soft flesh-pink, semi-double)
" " 'Latifolia' (soft rose-pink, semi-double)
" " 'Adolphe Audusson' (dark red, semi-double)
" " 'Gauntlettii' ('Sode-Gakushi') (large white, semi-double)
" " 'Gloire de Nantes' (early, rose-pink, semi-double)
" " 'Althaeaflora' (dark red, paeony form)
" " 'Elegans' (pink, anemone form)

List 4. Six for growing in tubs or pots

Our last list, for pot culture, should include varieties of compact upright habit, which with the help of a little judicious pruning can be made into perfect specimens.

C. japonica 'Kimberley' (bright red, single)
" " 'Alba Plena' (white, formal double)
" " 'Mathotiana Rosea' (pink, formal double)
" " 'Gauntlettii' ('Sode-Gakushi') (large white, semi-double)
" " 'Latifolia' (soft rose, semi-double)
" " 'Gloire de Nantes' (early, rose-pink, semi-double)

Propagation. I am sorry that the time allotted to this lecture does not give me the opportunity to explain and advise on this phase of camellia culture. The propagation of camellias was fully dealt with by me and published in the JOURNAL of the Royal Horticultural Society (Vol. LXXII, Part 2, page 59), and also by MR. H. G. HILLIER, V.M.H., in the Camellia and Magnolia Conference Report published in 1950.

I believe that the only important items that can be added to that account are the success obtained at Wisley by cleft-grafting camellias instead of side-grafting as there advised, and the rooting of cuttings with the aid of polythene plastic film, especially the poly-poly-thene technique (a polythene tent or frame within a polythene-lined house).

Recently I have seen most successful vegetative propagation of camellias under intermittent "mist technique" aided by electrically heated soil, with ample evidence for a further lecture on this important aspect of camellia cultivation.

THE GARDENS OF CLARE COLLEGE, CAMBRIDGE

J. S. L. Gilmour, V.M.H., and E. N. Willmer

EVERY year thousands of visitors to Cambridge walk through the Backs and many of them stop to imbibe the quiet serenity of the River Garden of Clare College. Contrary to what might be expected from its mature appearance, the garden, in its present form, is relatively new. After the years of neglect and austerity occasioned by the Second World War it was redesigned and mostly laid out in the summer and winter of 1946. Almost immediately it was baptized by one of the worst floods which Cambridge had seen for many years. This occurred when the snow melted over the frozen ground in the spring of 1947. But since then the garden has prospered.

Just as it is impossible to say why a particular picture is beautiful, so it is with a garden; and, indeed, some gardens have many of the same qualities as good pictures. In painting his picture the artist has probably obeyed certain general and rather simple rules and has endeavoured to obtain what he considers to be a good composition, a good pattern, a sense of repose, of unity, and perhaps of mystery. He has made certain colour harmonies and contrasts of tone; he has studied the qualities of edges and the exact shapes which interest him in his design. Yet he would probably be the first to admit, if his picture is admired, that really he does not know why this particular picture is successful while so many others over which he has spent an equal effort have failed to have any appeal.

If Clare College garden is admired, therefore, the answer to the question of why this should be so will not be found in the following pages. It may, however, be of interest to those who visit it to learn at least what rules and principles were followed in its construction, and some of these are set out below for their benefit.

In the first place, although the garden had been neglected for a number of years, it did contain many interesting trees and shrubs which were well established and worth preserving, such as a swamp cypress (Fig. 118) and a Judas tree. Moreover, there was a length of old brick wall which seemed to offer possibilities of protection for the growth of some of the less hardy shrubs and plants. These inherited objects were, therefore, first plotted on an outline plan of the garden.

The next step was to design on paper what may be called a working plan. In making this plan the first stage was to mark the points of vantage from which the garden was likely to be seen most often, e.g. from the windows of the college, the bridge over the River Cam, the point in the avenue leading to Queens' Road at which the garden first becomes visible, and several other less important places. From each of these places the garden was intended, if possible, to compose as a picture and to give the illusion of greater distance and space than were really there.

The actual area is about two and a half acres. Each picture was to be well balanced and have a main focus of interest. From the college the blue upright form of a cypress against a contrasting dark mass of old yews and a light variegated maple (*Acer negundo*) suggested itself as the focus to which the eye could be led, between two upright evergreens, a *Thuja orientalis* (Fig. 110) and an Irish yew, by the curves of the herbaceous borders. This necessitated the removal of a third centrally placed evergreen from the river bank and suggested a break in the bed and an extension of the lawn up to the river bank. The removal of the central tree also gave the opportunity for obtaining a view from the bridge deep into the garden. From the avenue the tall spire of the swamp cypress was the natural focus and the beds were so designed and shaped as to lead the eye to this tree beyond. A subsidiary focal point in this scene is a somewhat misshapen American horse-chestnut which was reprieved only at the last moment from the axe, because its autumn colouring was so splendid in 1946 and has been ever since. Its shape is now improving too.

At this stage it was decided to make use of the wall as a backing for a really wide (25 feet or so) herbaceous border. Ceanothus, blue clematis, *Buddleia alternifolia*, *Solanum crispum*, *Piptanthus nepalensis*, *Rosa hugonis*, *Cytisus praecox*, and *C. kewensis* furnish the wall itself, while a selection of free-flowering herbaceous plants are grouped in bold masses in front. A golden privet at the far end of the border is used as a very successful foil for deep blue delphiniums, and the whole colour scheme for this border is carried out entirely with blue and yellow or orange flowers (Fig. 109). On the other side of the walk, in front of this blue and yellow border, is its mirror image in which delphiniums particularly are emphasized. Their pointing fingers echo the spires of King's College Chapel which appear above the dark mass of a yew and other shrubs which back the border.

This blue and yellow double border reaches its climax in early July, but the third principle which lay behind the design was that something of interest should be available at all times of the year. In winter there must be sufficient shape about the lawns, beds, and trees that they still compose even if in a somewhat sombre key. There is, for example, a long walk, beneath overhanging yews, boxes and other trees, whose apparent length is increased by an accentuated perspective, and which mysteriously bends away out of sight at the far end. A completely formal pond garden is tucked away behind tall yew hedges and, though particularly attractive in the early summer with a low terrace of pink and white creeping phloxes, it has some interest even in the depth of winter. Incidentally this pond garden illustrates another principle which, at least for the amateur, is all-important. Although its general plan, like that of the garden as a whole, was designed on paper, the actual pond, steps and terraces were laid out by eye on the ground in such a way that when seen on entering the garden from any of its four entrances their lines and proportions seemed to be correct. Experienced landscape architects can no doubt predict such proportions in three dimensions,

but in this garden the apparent symmetry was achieved by trial and error on the spot, with the added intention of making the garden appear as large as possible when seen from the principal entrance with the wall and wrought-iron gate at the far end. Through this gate a long box-edged path flanked by tall clipped yews is reached. It has a sombre beauty in winter and comes to life in spring with a carpet of white crocus, arabis, iberis, and daffodils on one side, and a selection of white flowering shrubs on the other.

Another feature which gives interest in winter is an extension of the main lawn to give a glimpse of the arches of the bridge. In spring also this feature gains interest since the bridge then appears from beneath the branches of a well-grown Judas tree on one side (Fig. 117) and a medlar on the other.

The yew hedges of the formal pond garden leave curious odds and ends of ground behind them and one of these has been utilized for a scent garden, with chimonanthus and *Viburnum fragrans* for winter enjoyment, sweet briars, cistus, honeysuckles and various herbs for the summer. This garden was hollowed out to act as a bowl of scent in the still air of summer evenings. In that it succeeds, but at the same time it means that it is a frost trap in winter and the central beds, designed for wallflowers in spring and stocks in summer, are quite useless for wallflowers, and are generally filled with polyanthus instead. This illustrates the next important principle, namely that of not attempting to grow plants where they do not like growing and of trying to select plants suitable for each particular place. Another odd piece of ground behind the yew hedge and the herbaceous borders is the dampest spot in the garden and grows primulas, astilbes, and meconopsis with some success. Behind these and under the ever-increasing shade of a dawn redwood (*Metasequoia*) which should one day form the centre-piece of the garden is a glade of fox-gloves.

When the blue and yellow borders fade in August they give pride of place to the main, long, gently curving herbaceous border, which at the end furthest from the river is filled with plants of mixed colours but becomes a symphony of blue and pink phloxes, asters and dahlias at the end near the river. Along the river bank, where once, in days gone by, was a row of pleached limes, there are now two large beds of apparently irregular shape which blaze with red dahlias, salvias, antirrhinums and phloxes throughout the early autumn and lead the eye to the horse-chestnut already mentioned. In selecting these colours, again the illusion of distance is enhanced by massing the more orange reds and vermilions in the bed nearest to the raised avenue from which the border is first seen, while the purplish or bluish reds and crimsons occupy the further bed.

The garden is thus primarily a series of pictures painted with flowers and shrubs, but every now and then a horticultural or botanical gem is tucked away for the connoisseur. There is a famous clump of *Cypripedium calceolus*, now, alas, not as fine as it was a few years ago, when over twenty flowers were out at the same time. Snake's head fritillaries are

naturalized in the grass, though not as abundantly as in the Addisonian meadows of another place! The Judas tree by the bridge is one of the finest in Cambridge—a city of outstanding Judas trees, and at the other end of the path by the river the dazzling white flowers of *Magnolia denudata* light up the garden in the spring. The *Thuja orientalis* on the river bank is a form that turns a beautiful russet red in the winter, when colour is particularly welcome.

Although there is not much space left for adding new trees or shrubs, a *Prunus subhirtella* 'Pendula' has recently been planted on the grass bank at the edge of the river, and *Koelreuteria paniculata* in the water garden; the latter thrives in the Cambridge soil and climate, producing masses of yellow flowers every July and August.

This article is entitled "The Gardens of Clare College, Cambridge", and, indeed, the River Garden, although the most important, is not the only one belonging to the College. Across the bridge, nearer the Old Court, are the Master's Garden, with its famous copper beech and a fine display of roses, and the Scholars' Garden, bounded by an old stone wall festooned with *Clematis montana rubens*. Down the lime avenue and across Queens' Road is the Memorial Court, built since 1923, but embellished with trees of an earlier date, including a superb specimen of *Pterocarya fraxinifolia* and a weeping *Sophora japonica*. Within this court, built on a raised river terrace in consequence of which the soil is apt to dry out severely in summer, various forms of cistus, teucrium, lavender and helianthemum flourish, and a centre-piece of irises adds colour during "May-week". Finally, in the court created by the latest addition to the college in 1955, there is among other things a collection of yellow, orange and red roses for the summer, with a small group of those heaths which can tolerate lime, a Rhododendron × *praecox* and a *Mahonia japonica* for interest in winter and early spring.

SOME AMERICAN BOTANIC GARDENS AND UNIVERSITY AND OTHER GARDENS OF SPECIAL INTEREST

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(*Lecture given on February* 4, 1958, MR. J. S. L. GILMOUR, M.A., V.M.H., *in the Chair*)

IT was my privilege to visit the United States of America under the auspices of the Rockefeller Foundation and to visit certain university departments. I was also able to see something of the organization and work of several university and official gardens, public gardens and parks and a few federal or state parks and smaller nature reserves.

Through the services of the Foundation I was well received everywhere and American friends and colleagues gave me every help by facilitating my visits and answering my many questions. I would particularly thank PROFESSOR CLARK THAYER of the Department of Horticulture, State University, Amherst, Massachusetts, who did so much for me from the moment my visit was announced and who put his unrivalled knowledge of American horticulture and of the native flora so graciously and abundantly at my disposal. DR. GEORGE AVERY, JUNIOR, Director of the Brooklyn Botanic Gardens, received me on two occasions and gave up much of his valuable time to inspection of the gardens under his control and discussion of the trends in their development. I am also indebted to PROFESSOR LYLE BLUNDELL of the Department of Landscape Architecture, State University, Amherst, who shared with me his enthusiasm for the New England countryside and motored me through the unbelievable splendours of the Green Mountain country and the Mohawk trail in the autumn. My visit lasted from July to October so that I saw summer flowers and shrubs at their best, trees in their full leaf, and then the autumn colours about which deservedly so much has been written. Only comparatively recently, however, has it been possible for visitors to America to share visually their pleasures in the autumn colours through the medium of the 35 mm. colour film slides. This means is still new enough for there to be something of magic in it. I use a camera of English make, the versatility of which enabled me to cope with a remarkably wide range of subjects and conditions.

In this lecture I shall follow the sequence in which I visited the several centres in New England so that you may share my own delight in the gradual unfolding of a most stimulating tour. I shall spare you the excitement of the fantastic skyline of New York City, seen at dawn from the Hudson river, and the incredibility of the assemblage of amazing erections seen from the top of the Empire State Building. You would, however, have shared my relief at finding an oasis of green in Central Park and some leafy shade in Madison Square.

BROOKLYN BOTANIC GARDENS

My first call was at the Brooklyn Botanic Gardens, easily reached on the underground railway alighting at Eastern Parkway–Brooklyn Museum Station. From the station exit one sees on the right a miniature block a mere thirteen or so storeys high and on the left the gates and the greenery of the Botanic Gardens. The gates in finely wrought iron have an interesting motif that is fittingly botanical and economic, the maize plant, and this gives the visitors the hint that like this plant the gardens, too, are very much "in the service of mankind". The gardens occupy a triangular site of about fifty acres and therefore are strictly confined within their urban setting. The garden authorities over the years have kept their boundaries well planted with screening trees, both deciduous and conifer, and in the available garden space of this green sanctuary have

achieved a most commendable diversity. A small lake and a stream gave opportunity for the planting of an Oriental garden (Fig. 107) now pleasantly mature, a landscaped central area of three sections through which the stream winds, and a children's garden, a place of great activity from April to September. Areas of supplementary interest are reached by well sited paths—the Osbourne Memorial section with long borders of azaleas and chrysanthemums and the Wild Garden of birch and dogwood and native flowers, the Cherry Walk or the Cranford Rose Garden. The very names invite one to linger and savour the delights of these gardens within a garden. Though visitors to the rose garden can enjoy the fragrance of roses from May to October, the neat formality of paving and pergola, enhanced by the addition of HARRIET FRISMUTH's little bronze statue of a maiden with a nosegay and a sundial, is charming at any time of the year. The rock garden is on a site opened up through the finding of some boulders and glacial debris. Retaining very largely the natural distribution of these boulders, the planting has been developed to suit the soil and situation. A few dwarf conifers link the site with its setting and a mixed collection of rock plants give it stability. It was in a gravelly pocket beside one of the boulders that I saw in early October a lovely flush of the golden blooms of *Sternbergia lutea* pushing out through a loose accumulation of the faded leaves of scarlet and pin oak. These oaks are part of the screening trees. They vary a good deal in leaf form even within a species. Here in the Brooklyn Botanic Gardens also was to be seen a fine specimen of *Quercus phellos*—whose leaves are so linear that it is known as the Willow Oak. In early October it was still in full leaf, the green relieved by the lighter tones from the under surface. No trace of autumn colour was visible in this tree, but not far away a young sourwood tree (*Oxydendrum arboreum*) was assuming the reddish tints that would later flame and light up this corner of the garden with a few days of magnificence.

A fine collection of water-lilies is located near the administrative buildings, and this attracts specialists from many parts of the world. On leaving the water-lily pools, by a flight of steps up to a terrace giving a good view of the park and the gardens, one sees an example of ROSYNSKY's Black Locust (*Robinia pseudoacacia* var.), a picturesque tree that, by its slightly leaning trunk, the wide spread of its main branches and the delicacy of its foliage, adds distinction to this area.

A little further on and one finds oneself beside a low-walled sunken garden, and entering sees that the retaining wall is conveniently at hand height so that a blind person could easily walk round unaided. It is one of the latest additions to the Brooklyn Botanic Gardens; it is the garden for the blind. The plant labels have the names in Braille and are adjusted to the plants concerned. These in turn are plants of character whose leaf form and texture, flower or bud form, aroma or scent—present features that can readily be associated with the names. The provision of this special garden and all the care in planning, constructing and planting it, had evidently been undertaken in the true tradition of

this famous institution and is, indeed, a "garden in the service of mankind". The director and his staff are fully occupied all the year round with the educational activities, programmes of lectures and demonstrations, seasonal tours, advisory service, research in plant physiology and a scheme that enables a continuous stream of city school children each summer to gain an insight into the pleasure to be obtained from growing plants and seeing plants well grown.

Returning to the city of New York from this garden of solitude and varied interest, I was told of the "escape routes" that led over skyways and through tunnels and by devious ways heading west to Pennsylvania and New Jersey and north to New York State and north-east into Connecticut and Massachusetts.

I was taken into Connecticut on the Schuyler Merrit parkway that passes New Canaan and, crossing the Hausatonic River, there runs into the Wilbur Cross Parkway and over to New Haven where a short diversion leads to the campus of Yale University. Here trees soften the lines of the Collegiate Gothic buildings and fine elms grace the lawns and have a pleasant unifying effect.

The parkways run for long distances and yet do not create a feeling of monotony in the traveller. They are not dead straight, but are fitted into the countryside and curve enough to give variety. They have dual carriage-ways, each with double tracks. The roadsides and central strips are consciously planned and are planted with native species of trees and shrubs. Travelling along one notices pin oak, hemlock, viburnum, cornus, kalmia, spruce, sugar maple, white pine, ailanthus, cotinus and black walnut. Wherever there is a road-bridge to allow another important road to cross, without hindering either flow of traffic, the bridge is well designed and pleasantly sited. Everywhere the tree planting is excellent and numerous bridges present a fine selection of designs, some in stone, others in brick, or concrete or any two of these, sometimes with iron as braces or balustrades. Single- and double-span bridges are used, as suitable, and everywhere sensible use is made of harmonious verdure which is allowed to embellish the bridges in part or furnish a pleasing foil to their sometimes hard lines and harsh texture. The grass verges are kept reasonably short and the whole effect is most orderly.

Unfortunately the speed of the traffic gives one little time to dawdle and admire the now established planting and design that forms a permanent memorial to the man who first conceived them last century, FREDERICK LAW OLMSTED, SENIOR, of Massachusetts, sometime Superintendent and responsible for the laying-out of the Central Park, New York City. OLMSTED followed the lead given to America by ANDREW JACKSON DOWNING, a New York landscape architect and gardener (1815–52), who was a great exponent of HUMPHREY REPTON's principles. These principles, you will remember, were those on which the final fulfilment of the English landscape garden was achieved. As OLMSTED's influence

was most strongly felt in the New England States it is in Connecticut, Massachusetts, New Hampshire and Vermont that we see some of the most refined landscapes that the United States has to show today, and nowhere are they more varied and lovely than in Massachusetts. This State was the country beloved of THOREAU. NATHANIEL HAWTHORNE wrote of it from Salem and Lennox. Here EMERSON "loved to loiter and watch patiently, and listen until the vision of Nature came clothed in fitting phrase". At Amherst lived EMILY DICKINSON, and DAVID GRAYSON, and it is still the home of our recent visitor the poet ROBERT FROST.

The town of Amherst is typical of many in New England. It is largely hidden in the foliage of this region of forests and rivers. Here the use of trees to give shade and coolness is well demonstrated in tree-lined streets and to walk along Amity Street even on a hot summer's day is to enjoy pleasant refreshment. The dense shade is also a boon in giving some shade to the woodwork of the houses and it helps to keep the ground around them cool and shady enough to grow some verdure even if it is only poor grass or English ivy.

My impression was that the people value their familiar trees for their grace and beauty as well as for their shade. It was in keeping with the New England character that DAVID GRAYSON should buy land near his home to preserve a fine elm tree threatened by building encroachment. It was like GRAYSON then to publish a book of characteristic essays with the title *Under my Elm*. You may know him as the author of *Adventures in Contentment*; *Adventures in Friendship* and *The Friendly Road*. If not, may I recommend him?—you will enjoy seeing rural America of a bygone age through his eyes and making the acquaintance of Harriet and Horace and the Scottish Preacher. DAVID GRAYSON built himself a house on Amity Street soon after World War I. It had a charming view of the hills and from his garden he could look out over pasture and arable, over woodland and waste. He planted an orchard and he kept bees. Here in Amherst he devoted himself to writing of the country as he had known it and of the men and women who contributed to its life and development. He died in 1946 greatly mourned by a wide circle of friends. I visited the Grayson Room in the library in Amherst, and turning the pages of some of his manuscripts and speaking to those who had known him, realized in what high esteem his memory is still held. . . . I walked, as on a pilgrimage, down the lane by the garden he had made; I noted the drifts of golden rod, the Joe Pye weed, the milkweed, the wild cucumber, the maples and the sassafras that had given him pleasure, and the flushed, berry-laden honeysuckle (*Lonicera tartarica rosea*) that leaned out from the hedge that had known his reluctant pruning. . . .

STATE UNIVERSITY OF MASSACHUSETTS

Amherst is the site of the State University of Massachusetts, founded as a Land Grant College in 1862. The present university provides residential instruction in agriculture and horticulture, conducts research

on a wide range of subjects and carries out extension work in the subjects it covers. The university estate, or campus, is just north of Amherst and is about 700 acres in extent. The campus has been laid out in landscape style on a convenient sloping site in which the campus pond is an attractive feature. Administrative and teaching buildings are satisfactorily grouped and tend to bound the central area on the west, and dormitories and other teaching blocks bound it on the east. Fine specimen trees, groups and short groves, are a feature of the campus and these and areas of grass serve to link it with the town of Amherst. The horticulturist finds much to interest him in the area adjacent to French Hall, the horticultural teaching centre. Here are located one of the oldest buildings on the campus, now reserved for the Department of Wild Life and Conservation, the university collection of tropical plants and the Department of Landscape Architecture. In this general area are diverse trees and shrubs selected for special emphasis in the three contexts, horticultural, conservational and landscape design. I noticed Norway maple, *Acer platanoides*, and sugar maple, *A. saccharum*, scarlet oak, *Quercus coccinea*, *Ulmus americana* and a form of European wych elm, *Ulmus procera van houttei*, a nice range of Japanese maples, and, for filling in, such small trees and shrubs as *Sassafras albidum*, a native American tree from which the oil is used in the manufacture of perfumery, *Aesculus parviflora*, a native of the Southern United States and known as the bottle-brush buckeye, and *Chionanthus virginica*, the white fringe bush. Native dogwoods were also demonstrated and a range of acacias and their near relatives. *Cercidiphyllum japonicum* flourished beside French Hall and running through its lower branches the native wild cucumber, *Micrampelis lobata*—a weed, yes, but how attractive in its early growth! Canadian yew, *Taxus canadensis*, and dwarf forms of native hemlock, *Tsuga canadensis*, were also found a place; they lend themselves to clipping and so are useful to demark gardens or areas of particular interest. Taller forms of hemlock, species of spruce, and a specimen of the Japanese umbrella pine, *Sciadopitys verticillata*, graced the little garden whose stone stairway was "donated by the horticultural class of 1939". Was it by accident or design that in a dark corner nearby a modest spray of "kiss me over the garden gate" (*Polygonum venosum*) hung down its lovely head?

The university has a further site of some 750 acres at Mount Toby (1,200 feet) where local strains of *Tsuga canadensis* are being studied and the factors affecting the recolonization of felled areas with this and other native trees are under investigation.

At Waltham, near Boston, the university has a Field and Experimental Station with a wide range of subjects under review. Here random samples of commercial flower seed are bought and the plants are grown in public display beds where all may see the quality, trueness to name, disease resistance, longevity and general form and vigour of the kinds concerned. The source of seed is declared and it is open alike to seed firms and public to assess the merits of the strains and know their

sources. Petunias, Tagetes and *Phlox drummondii* occupied many of the beds in July and August, and attracted a steady stream of visitors.

Not only on the campus at Amherst but elsewhere where building was in progress, the use and care of trees was well demonstrated. Deciduous trees, walnut, maple, lime, beech, London plane, and acacia, 18–20 feet high, were freely used in planting schemes. These trees usually had their 8–10 foot of trunk wrapped in sacking. This was kept on for a year or two until the tree was established and served to protect its trunk from frost damage in winter and from sun scorch in summer.

THE JOSEPH SKINNER STATE PARK

Not far from Amherst across Pioneer Valley and rising up from the plain of the Connecticut River is Mount Holyoke (878 feet) part of which is now designated the Joseph Skinner State Park.

The woods contain largely native species of trees notably of grey birch, pin oak, black walnut, maple and white pine. Picnic places are generously provided, each has a brick-built fire-place, a supply of chopped wood for fuel and a notice regarding fire hazard. This notice also requests reasonable care, and tidiness in the use of the site. Picnic tables and seats are also provided, and a litter bin. As far as I was able to observe those making use of the sites behave with a sense of responsibility that must be greatly appreciated by the Park Authority. During the week the park appeared to be used by small groups or families as a place of quiet leisure and even at week-ends when more children were free, their games and amusements appeared to be organized sensibly and to be played without rowdiness that would disturb other visitors and without damage to the trees or wanton misuse to the sites.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Boston, Massachusetts, cultural centre of New England and home of a famous symphony orchestra, has much to attract the visitor. I saw it across the Charles River just as the evening light was catching its roof-tops and illuminating its various administrative buildings. The light also shimmered in the willows that lined the waterside and this contributed to the beauty of the scene. Boston has also been found convenient as a site for the Massachusetts Institute of Technology. In the planning and architecture for this Institute the moderns have apparently been given a free hand. The great dome of the mathematics building, the cylindrical church, and Eero Saarinen's auditorium are adventurous and arresting—no wonder that students of architecture from many parts of the world visit the Massachusetts Institute of Technology to see these wonderful examples achieved through the stimulation of the Bauhaus concept. Near the mathematics building I noticed some planting of *Gleditschia triacanthos*, the honey locust—a native American tree somewhat thorny in its early stages. I do not suppose that the association was deliberate! There were a few examples of *Ailanthus altissima*, the tree of heaven, to be seen, appropriately, near the church. But the

planting in the area about the auditorium appeared to have found the garden planner without inspiration, so recourse was had to the London plane. The choice may yet prove to have been a successful one, for this hybrid of *Platanus occidentalis* and *P. orientalis* is very tolerant of an urban environment.

A GARDEN NEAR STOCKBRIDGE

This all too brief survey of Massachusetts gardens must be concluded with the briefest of mentions of a small private garden near Stockbridge in the Berkshire hills, laid out originally about seventy years ago by NATHANIEL BARRETT, a landscape architect from Boston. The site had been a difficult one to plan as it was on the edge of a slight escarpment and hence part of the pleasure garden was on the steep hillside and two grassy terraces 10 feet or so high sloped down towards the lower gardens and lawns. The gardens were surrounded by evergreen hedges of spruce and Canadian hemlock. A few specimens of American elm and white oak were retained in the scheme and the general effect was considered satisfactory. A few years ago MR. FLETCHER STEELE, also of Boston, was called in to suggest modifications that would simplify the maintenance of the gardens and ease the transition from the upper garden to the southern part of the lower lawn. By bringing in more soil and paying great attention to the grading, a beautiful long sloping lawn with gentle curves has been achieved. From this lawn views can be obtained both of the house and garden and its setting amid the now finely grown trees and out across the estate into the country beyond. The use of trees to frame the views and to beautify the gardens has been skilfully planned and time has allowed elms, oaks, cutleaved maples, copper beeches, sophoras, Japanese maples and a few specimens of cupressus and thuya as well as larches to grow out and assume their natural shapes. In fact, for me, the trees were the outstanding feature of this garden and their characteristic leaf form and texture in sunlight or shade provided abundant interest without the use of flowers.

THE AUTUMN COLOURS

New England in the autumn was indescribably lovely and the riot of the autumn colours compensated for any lack of colour in American gardens throughout the summer. About the campus at Amherst, Norway maples flamed, and elms glowed in waving shawls of golden foliage. Even poison ivy (*Rhus toxicodendron*) took on a wonderful range of yellows and scarlets and decorated the tree trunks with unexpected gaiety. The flowering dogwoods, with their dull red foliage and scarlet berries, and the warm apricot of the sassafras now showed to advantage and if an alien note was struck by the winged spindle (*Euonymus alatus*) in a thicket of *Kalmia*, the warmth and uniformity of colour of its near pink foliage justified its inclusion. Here and there the lovely pale yellow of the grey birch became daily more diffuse as its leaves were shed, but that only revealed the graceful etching of its flexuous branches. In a

quiet corner near the campus the scarlet leaves of the pin oak fluttered down beside a sundial dedicated to the memory of one of Amherst's citizens, ANSON MORSE, historian, who passed on some forty years ago. Beyond the campus the late afternoon sunlight played on the little hills and on pasture and woodland and made the scene seem much like Old England as seen by JOHN CONSTABLE years ago, except that the foreground colours had a quality that only the New England environment could give.

From my inadequate description of these various gardens you will have gathered that trees and shrubs play a great part in beautifying the American scene. In consequence there is great emphasis in teaching courses; on their care and cultivation and pruning and maintenance of trees and the use of sensible tree surgery is accepted as part of the training of a horticulturist.

The scale of the work entailed in connexion with trees and its impact on the official advisory services is considerable, but this is so much part of the American system that it is taken for granted. Nothing was more impressive than the courtesy and help I heard extended to the often unknown multitude of telephone correspondents who rang up the University Extension Service and Botanic Gardens for information and guidance about trees. We like trees in Great Britain, but we have a long way to go in this country before we equal our American cousins in their interest and pride in trees.

In concluding, if it were permissible to dedicate a lecture, as CHARLES DICKENS did his little book *American Notes*, about one hundred years ago, I would borrow his words. They read: "I dedicate this to those friends of mine in America who, giving me a welcome I must ever gratefully and proudly remember, left my judgement free, and who can bear the truth when it is told with good humour and in a kindly spirit."

THE CHAIRMAN thanked the lecturer for his address and congratulated him on the selection of his material and his treatment of a subject of wide interest. He also commented most favourably on the excellence of the colour slides with which the lecture was illustrated for through their medium the American scene had been most brilliantly presented.

WISLEY TRIALS, 1958

HEUCHERAS

The Council of The Royal Horticultural Society has made the following awards to Heucheras after trial at Wistley, on the recommendation of the Floral Committee A.

SCINTILLATION. (Raised by Mr. Alan Bloom, introduced and sent by Messrs. Bloom's Nurseries Ltd., Bressingham, Diss, Norfolk.) **F.C.C.** May 30, 1958. Described R.H.S. JOURNAL, **81**, p. 456 **A.M.** (1957). [1]

RED SPANGLES. (Raised by Mr. Alan Bloom, introduced and sent by Messrs. Bloom's Nurseries Ltd.) **H.C.** May 30, 1958. Plant 9 to 12 inches high, 22 to 24 inches across, compact and erect, flowering freely; flower stalk 26 inches long, erect; inflorescence 7 inches long, 3 inches diameter; flower $\frac{3}{8}$ inch diameter, single, Turkey Red (H.C.C. 721/1). [4]

LUPINS

The Council of The Royal Horticultural Society has made the following awards to perennial lupins after trial at Wisley, on the recommendation of the Floral Committee A.

The number in brackets after the description of the variety was that under which it was grown in the trial.

LADY FAYRE. (Raised, introduced and sent by Messrs. Bakers Nurseries Ltd., Codsall, Wolverhampton, Staffs.) **F.C.C.** June 11, 1958. Plant $2\frac{1}{4}$ feet high, 2 to $2\frac{1}{4}$ feet spread, vigorous, not woody; foliage medium size, medium green; inflorescence 18 inches long, $2\frac{1}{2}$ to $2\frac{3}{4}$ inches diameter at base, standard Porcelain Rose (H.C.C. 620/2) with amber blotch, changing to Phlox Pink (H.C.C. 625/1) with larger white blotch; wings Carmine Rose (H.C.C. 621/1), changing to Crimson (H.C.C. 22/1) with flush of Rose Opal (H.C.C. 022/1) (**A.M.** 1954). [4]

ARISTOCRAT. (Raised, introduced and sent by Messrs. Bakers Nurseries Ltd.) **H.C.** June 11, 1958. Plant $2\frac{1}{4}$ to $2\frac{1}{2}$ feet high, $2\frac{1}{4}$ feet spread, vigorous, not woody; foliage medium size, medium green; inflorescence $16\frac{1}{2}$ inches long, $2\frac{1}{2}$ inches diameter at base; standard creamy white flushed with very pale pink; wings creamy white. [39]

TOMMASINI RIESEN. (Raised, introduced and sent by Mr. G. Tommasini, Dietlikan, Glathal, Switzerland.) **H.C.** May 30, 1958. Plant 4 to $4\frac{1}{2}$ feet high, $3\frac{1}{2}$ feet spread, very vigorous, not woody; foliage large, medium to dark green; inflorescence 20 to 23 inches long, 3 inches diameter at base; standard upper half Magnolia Purple (H.C.C. 030), lower half Empire Rose (0621/2); wings Empire Rose (H.C.C. 0621/2). [33]

NARCISSI

A Sub-committee of the Narcissus and Tulip Committee inspected the trial on April 11, 22, and May 1, 1958, and on its recommendation the Council of The Royal Horticultural Society has made the following awards to Narcissi as varieties for garden decoration.

Twenty-five bulbs of each variety were grown and the number in brackets after the description of the variety is that under which it was grown in the trial.

CANTATRICE. (Raised, introduced and sent by Mr. Guy L. Wilson, The Knockan, Broughshane, Co. Antrim, N. Ireland.) **F.C.C.** April 22, 1958. Division 1c, Trumpet Narcissus. Described R.H.S. JOURNAL, 81, p. 367. Flowering from April 14, 1958. Flowers in the first year, 30, and in the second year, 65 (**A.M.** 1956). [22]

CELEBRITY. (Raised by Messrs. van Leeuwen & Co., introduced by Mr. J. Geerlings and sent by Messrs. G. Geerlings & Sons, Noordwijkerhout, Holland.) **A.M.** April 11, 1958. Division 1b, Trumpet Narcissus. Plant vigorous, foliage 13 to 14 inches long, erect. Flower stems 14 to 15 inches tall; flowers 4 inches diameter, of good form; perianth segments

1⅝ inches long, slightly twisted, overlapping for half their length, creamy white touched Canary Yellow (H.C.C. 2/2) at base; corona 1⅞ inches long, 2 inches diameter, mouth fully expanded and frilled with margins serrated, Canary Yellow (H.C.C. 2). Flowering from April 3, 1958. Flowers in the first year, 27, and in the second year, 60. [11]

CLONMORE. (Raised, introduced and sent by Mr. Guy L. Wilson.) **A.M.** April 22, 1958. Division 1a, Trumpet Narcissus. Plant vigorous, foliage 18 to 20 inches long, erect. Flower stems 20 inches tall; flowers 4 inches diameter, of good form; perianth segments 1¾ inches long, flat, margins slightly incurving, overlapping for half their length, Canary Yellow (H.C.C. 2/1); corona 1⅛ inches long, 1¾ inches diameter, slightly ribbed, mouth fully expanded and frilled with margins serrated and slightly reflexed, Aureolin (H.C.C. 3). Flowering from April 14, 1958. Flowers in the first year, 38, and in the second year, 81. [10]

NEMO. (Raised and introduced by Mr. J. Lionel Richardson, Prospect House, Waterford, Eire, sent by Messrs. Ballydorn Bulb Farm, Killinchy, Co. Down, N. Ireland.) **A.M.** April 22, 1958. Division 3b, Small-cupped Narcissus. Plant vigorous, foliage 18 to 20 inches long, spreading. Flower stems 18 to 20 inches tall; flowers 3½ inches diameter, of good form; perianth segments 1¾ inches long, flat, overlapping for half their length, creamy-white; corona ½ inch long, 1⅜ inches diameter, ribbed, mouth expanded and frilled with margin crenate, Marigold Orange (H.C.C. 11/1) changing to Canary Yellow (H.C.C. 2/1) towards base. Flowering from April 21, 1958. Flowers in the first year, 36, and in the second year, 53. [75]

OLYMPIC TORCH. (Raised by Major J. O. Sherrard, The Old Rectory, Shaw, Newbury, Berkshire, introduced and sent by Mr. Peter Lower, Chukwani, New Road, Teignmouth, Devon.) **A.M.** May 1, 1958. Division 2b, Large-cupped Narcissus. Plant vigorous, foliage 24 inches long, erect. Flower stems 20 to 22 inches tall; flowers 3⅞ inches diameter, of good form; perianth segments 1⅝ inches long, slightly incurving, overlapping for two-thirds their length, cream; corona ⅝ inch long, 1¾ inches diameter, ribbed, mouth fully expanded and frilled with margins crenate, Indian Yellow (H.C.C. 6/1) overlaid at margins with Nasturtium Orange (H.C.C. 610). Flowering from April 22, 1958. Flowers in the first year, 30, and in the second year, 67. [38]

PLEASING. (Raised, introduced and sent by M. P. Williams, Esq., M.B.E., Lanarth, St. Keverne, Cornwall.) **A.M.** April 22, 1958. Division 2a, Large-cupped Narcissus. Plant vigorous, foliage 19 to 21 inches long, spreading. Flower stems 19 to 21 inches tall; flowers 3½ inches diameter, of good form; perianth segments 1⅝ inches long, flat, overlapping for half their length, Mimosa Yellow (H.C.C. 602); corona 1¼ inches long, 1⅛ inches diameter, slightly ribbed, mouth slightly expanded and frilled with margins serrated, Lemon Yellow (H.C.C. 4). Flowering from April 16, 1958. Flowers in the first year, 22, and in the second year, 62. [52]

SWANDEAN. (Raised, introduced and sent by Sir Frederick Stern, O.B.E., M.C., F.L.S., V.M.H., Highdown, Littlehampton Road, Goring-by-Sea, Worthing, Sussex.) **A.M.** April 22, 1958. Division 2b, Large-cupped Narcissus. Plant vigorous, foliage 19 to 21 inches long, slightly spreading. Flower stems 20 to 21 inches tall; flowers 3¾ inches diameter, of good form; perianth segments 1⅝ inches long, flat, overlapping for half their length, creamy white; corona ⅜ inch long, 1⅛ inches diameter, ribbed, mouth slightly expanded and frilled with margins serrated, pale cream tinged Lemon

Yellow (H.C.C. 4/1) around outer edge. Flowering from April 12, 1958. Flowers in the first year, 37, and in the second year, 66. [70]

MABEL GREY. (Raised, introduced and sent by The Countess Grey, Howick, Alnwick, Northumberland.) **A.M.** May 1, 1958. Division 2b, Large-cupped Narcissus. Plant vigorous, foliage 18 to 20 inches long, very erect. Flower stems 18 to 20 inches tall; flowers 4 inches diameter, of good form; perianth segments 1⅝ inches long, flat, overlapping for one-third their length, creamy white; corona ⅝ inch long, 1¾ inches diameter, ribbed, mouth expanded and much frilled with margins serrated, Aureolin (H.C.C. 3/1) changing to creamy white towards base. Flowering from April 19, 1958. Flowers in the first year, 29, and in the second year, 52. [69]

TRESAMBLE. (Raised by the late P. D. Williams, Esq., introduced and sent by Messrs. G. Zandbergen-Terwegen, Sassenheim, Holland.) **A.M.** May 1, 1958. Division 5a, Triandrus Narcissus. Plant vigorous, foliage 20 to 22 inches long, erect. Flower stems 16 to 18 inches tall; flowers 3½ inches diameter, of good form; perianth segments 1½ inches long, slightly twisted, overlapping for half their length, white; corona ⅞ inch long, 1½ inches diameter, ribbed, mouth frilled with margin crenate, white. Flowering from April 26, 1958. Flowers in the first year, 25, and in the second year, 58. [78]

WHITE LION. (Raised, introduced and sent by Messrs. de Graaff-Gerharda, Lisse, Holland.) **A.M.** April 22, 1958. Division 4, Double Narcissus. Described R.H.S. JOURNAL, **81,** p. 368. Flowering from April 19, 1958. Flowers in the first year, 29, and in the second year, 55 (**H.C.** 1956). [77]

SIGRID UNDSET. (Raised by Mr. J. W. A. Lefeber, introduced and sent by Messrs. van Zonneveld Bros. & Philippo N.V., Sassenheim, Holland.) **H.C.** May 1, 1958. Division 3b, Small-cupped Narcissus. Plant vigorous, foliage 22 to 24 inches long, lax. Flower stems 21 to 23 inches tall; flowers 3⅞ inches diameter, of good form; perianth segments 1¾ inches long, slightly incurving, overlapping for half their length, creamy white; corona ½ inch long, 1¼ inches diameter, ribbed, mouth slightly expanded and frilled with margin crenate, Aureolin (H.C.C. 3) changing to Orpiment Orange (H.C.C. 10/1) at mouth. Flowering from April 19, 1958. Flowers in the first year, 33, and in the second year, 80. [76]

PLANTS TO WHICH AWARDS HAVE BEEN MADE IN 1958

Begonia 'Ninette' F.C.C. May 19, 1958. Described R.H.S. JOURNAL, **82,** p. 357. (**A.M.**) 1957. Raised, introduced and shown by Messrs. Blackmore & Langdon, Bath.

Begonia 'Guardsman' A.M. May 19, 1958. This bright Dutch Vermilion (H.C.C. 717/1) variety has very large handsome flowers of excellent form. The raisers claim that it is one of the most brilliant-coloured begonias they have yet produced. Raised in 1952, introduced and shown by Messrs. Blackmore & Langdon, Bath.

Begonia 'Margaret Collins' A.M. May 19, 1958. A large full-flowered bright Carmine (near H.C.C. 21/1) variety with waved petals.

It is especially recommended for show purposes by the raisers on account of its keeping qualities. Raised in 1954, introduced and shown by Messrs. Blackmore & Langdon, Bath.

Begonia 'Prelude' A.M. May 19, 1958. The Camellia Rose (near H.C.C. 622/1) flowers of this fine variety are large and well formed. Raised in 1953, introduced and shown by Messrs. Blackmore & Langdon, Bath.

Forsythia viridissima 'Bronxensis' A.M. April 9, 1958. This small shrub, as the name suggests, is of American origin, and is said to remain dwarf in stature. The specimen exhibited, which had been grown by the exhibitor for a number of years, was only 8 inches high and measured less than a foot across. It bore about one hundred open flowers, Primrose Yellow (H.C.C. 601) in colour, no leaves being evident at this stage. Exhibited by R. B. Cooke, Esq., Kilbryde, Corbridge, Northumberland.

Helichrysum coralloides A.M. May 19, 1958. The numerous erect branches of this small shrub from New Zealand are clothed with tightly-packed leaves resembling tiny glossy green tubercles embedded in white down, the whole effect being very reminiscent of a piece of stag's-horn coral. The flower is inconspicuous. It is said that the leaves of young plants are completely different, being open and spreading. In the adult state the lower part of the stems is brown and woody, and the plant before the Committee was about 9 inches high, with a spread of 9 inches. Exhibited by Messrs. Stocklands Estate Nursery, Bewdley, Worcestershire.

NARCISSI

Narcissus 'Santa Claus' F.C.C. May 19, 1958. As a variety for exhibition. Division 4, double Narcissus. Stem 18 inches long; flower 3 inches diameter, fully double, strongly scented, white (**A.M.** 1950). Raised and shown by Mr. Guy L. Wilson, The Knockan, Broughshane, Ballymena, Northern Ireland.

Narcissus 'Baynard' A.M. April 23, 1958. As a variety for exhibition. Division 1a, trumpet Narcissus. Stem 19 inches long; flower $1\frac{5}{8}$ inches diameter; perianth segments $1\frac{1}{2}$ inches long, $1\frac{7}{10}$ inches wide, flat with margins slightly incurving, overlapping for half their length, slightly pointed to blunt, Canary Yellow (H.C.C. 2); corona $1\frac{3}{8}$ inches diameter, $1\frac{7}{10}$ inches long, slightly ribbed, mouth expanded and frilled, margins serrated and reflexed, Lemon Yellow (H.C.C. 4). Raised and shown by Mr. J. Lionel Richardson, Prospect House, Waterford, Eire.

Narcissus 'Careysville' A.M. April 15, 1958. As a variety for exhibition. Division 2b, large-cupped Narcissus. Stem 21 inches long; flower $4\frac{1}{4}$ inches diameter; perianth segments $1\frac{3}{4}$ inches long, $1\frac{5}{8}$ inches wide, flat with margins slightly incurving, overlapping for half their length, creamy white; corona 2 inches diameter, $1\frac{7}{10}$ inches long, slightly ribbed, mouth expanded and frilled, margins serrated, Straw

Yellow (H.C.C. between 604 and 604/1). Raised and shown by Mr. J. Lionel Richardson.

Narcissus 'Tulyar' A.M. April 23, 1958. As a variety for exhibition. Division 3b, small-cupped Narcissus. Stem 13 inches long; flower 3½ inches diameter; perianth segments 1½ inches long, 1½ inches wide, flat with margins incurving, overlapping for half their length, three segments reflexed, blunt, white; corona 1 inch diameter, $\frac{3}{10}$ inch long, much ribbed, mouth expanded and frilled, margins very slightly serrated, Indian Orange (H.C.C. 713/2) deepening to Indian Orange (H.C.C. 713) at edge. Raised and shown by Mr. J. Lionel Richardson.

Narcissus 'White Prospect' A.M. April 23, 1958. As a variety for exhibition. Division 1c, trumpet Narcissus. Stem 22 inches long; flower 4⅜ inches diameter; perianth segments 1⅝ inches long, 1⅛ inches wide, flat with margins slightly twisted, overlapping for half their length, white; corona 2 inches diameter, 2$\frac{1}{10}$ inches long, very slightly ribbed, mouth expanded and frilled, margins serrated and reflexed, white. Raised and shown by Mr. J. Lionel Richardson.

Pelargonium 'Eustace Hoare' A.M. April 29, 1958. An excellent white variety with Tyrian Rose markings on the upper petals, raised in 1954 by MR. E. HUMPHRIS from an unnamed seedling. The individual flowers measure from 2¾–3 inches across and are borne in numerous large well-formed trusses. Shown by Hon. Mrs. Hoare (grower Mr. E. Humphris), Aynho Park, Banbury, Oxon.

Potentilla alba A.M. May 13, 1958. This hardy perennial is a native of the central and southern parts of Europe, especially in the Alps and Pyrenees. The palmate leaves are about 3 inches across, and have a silky down on the lower surface, the tip of each leaflet being toothed. The flower stems branch, each bearing several white strawberry-like flowers with an orange ring at the base of the petals. It is said to flower continuously from January to October. Exhibited by Mr. and Mrs. R. Baillie, Grainfoot, Longniddry, East Lothian, Scotland.

Salix × boydii A.M. June 17, 1958. The parentage of this natural hybrid is uncertain, but it is thought to be a cross between *S. lapponicum* and *S. reticulata*. It was discovered over 60 years ago by the late DR. WM. BOYD while botanizing in Forfarshire, and has never been found again, though the original plant is still in existence and is even now only 3 feet in height. The plant exhibited was 14 inches high and 11 inches across. It forms a dwarf tree, the ascending branches being smooth and gnarled. The upper stems are green and shining, the small obovate leaves being clustered around the young growth at the tips of the branches. The leaves are tomentose on both sides and crinkled on the upper surface, where a deep groove follows the line of the midrib. Exhibited by R. C. Elliott, Esq., 15 West Drive, Handsworth, Birmingham.

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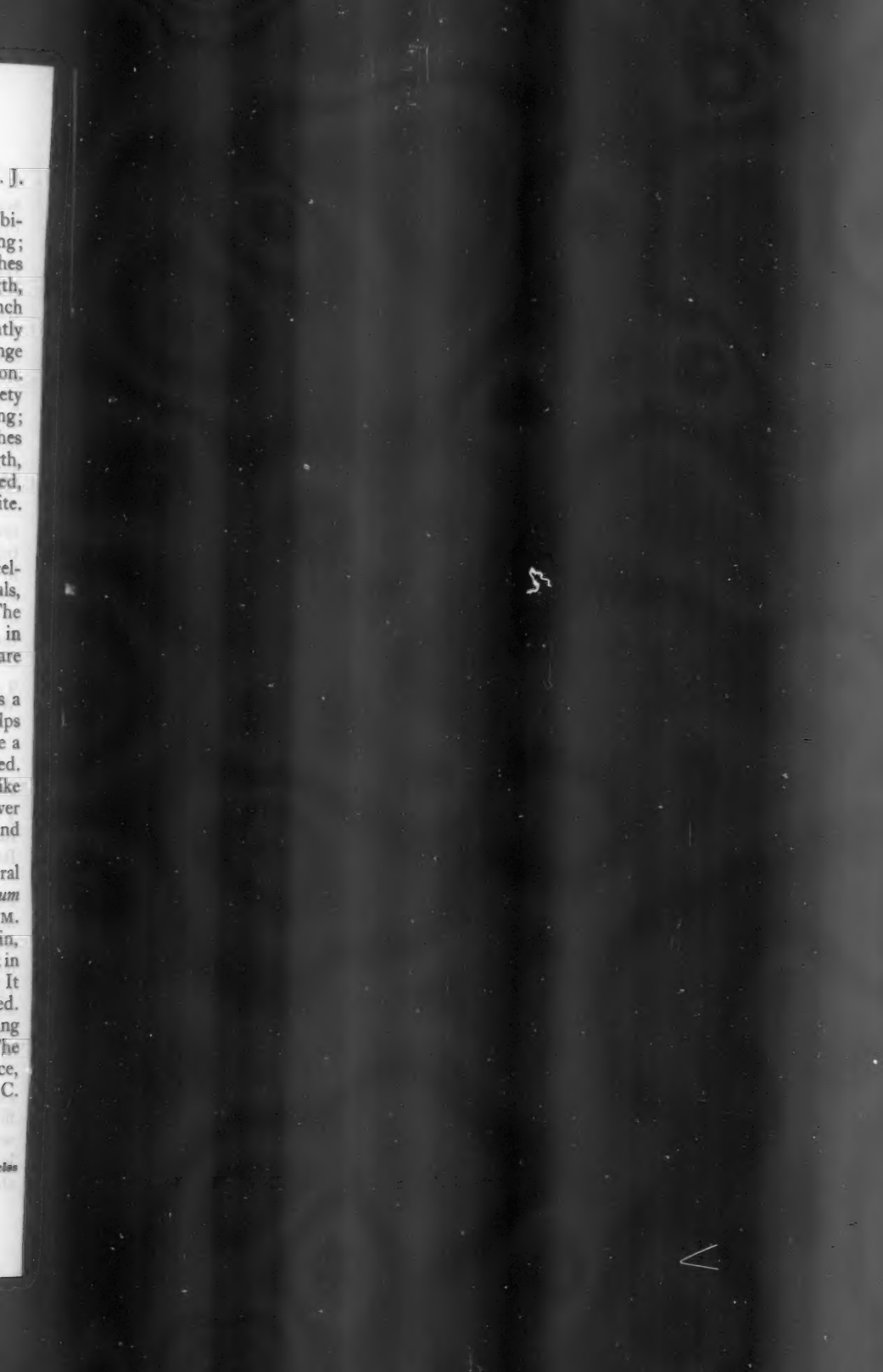

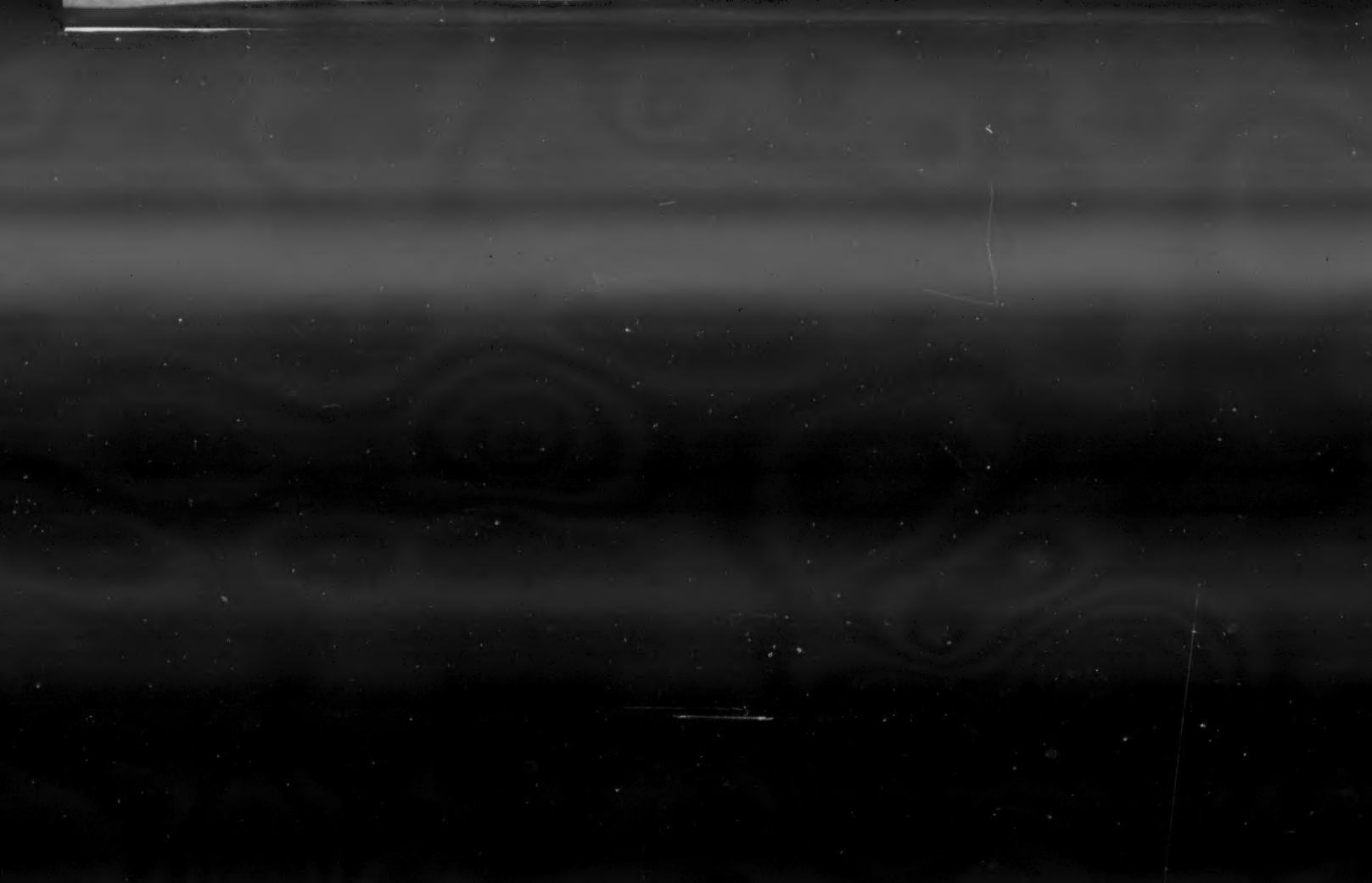

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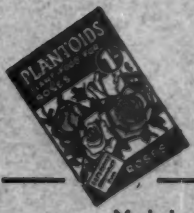

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